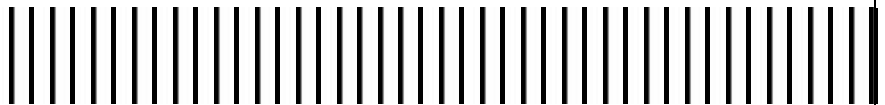


**Texas Custodial Trust**

2301 West Paisano Drive • El Paso, Texas 79922

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**Appendix F**  
**Soil Analytical Data**



**Table F-1**  
**Soil Analytical Data - East Mountain Area**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | AM-SS01<br>0 - 0.5<br>5/26/2011 | AM-SS02<br>0 - 0.5<br>5/26/2011 | AM-SS03<br>0 - 0.5<br>5/26/2011 | AM-SS04<br>0 - 0.5<br>5/26/2011 | AM-SS05<br>0 - 0.5<br>5/26/2011 | AM-SS06<br>0 - 0.5<br>5/26/2011 | AM-SS07<br>0 - 0.5<br>5/26/2011 | AM-SS08<br>0 - 0.5<br>5/26/2011 | AM-SS09<br>0 - 0.5<br>5/26/2011 | AM-SS10<br>0 - 0.5<br>5/26/2011 | AM-SS11<br>0 - 0.5<br>5/26/2011 | AM-SS12<br>0 - 0.5<br>5/26/2011 | AM-SS13<br>0 - 0.5<br>5/26/2011 | AM-SS14<br>0 - 0.5<br>5/26/2011 | AM-SS15<br>0 - 0.5<br>5/26/2011 | AM-SS16<br>0 - 0.5<br>5/26/2011 | AM-SS17<br>0 - 0.5<br>5/26/2011 | AM-SS18<br>0 - 0.5<br>5/26/2011 | AM-SS19<br>0 - 0.5<br>5/26/2011 | BL43<br>0 - 0.17<br>6/28/2001 | BL44<br>0 - 0.17<br>6/27/2001 | BL44<br>0.17 - 0.33<br>6/28/2001 |  |
|--|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|----------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                               |                               |                                  |  |
| Antimony   | <5.97 UJ                        | <2.14 UJ                        | <3.2 UJ                         | <4.28 UJ                        | 137                             | 15.8                            | 26.1                            | 11.5                            | 9.83                            | 5.33                            | 6.35                            | 27.3                            | 8.01                            | 8.27                            | 13.7                            | 5.62                            | 38.6                            | 9.69                            | 9.96                            |                               |                               |                                  |  |
| Arsenic  | 30.8                            | 25.8                            | 41.5                            | 36.1                            | 615                             | 141                             | 165                             | 112                             | 74.5                            | 104                             | 42.3                            | 159                             | 100                             | 81.9                            | 106                             | 60.1                            | 234                             | 93.2                            | 86                              |                               |                               |                                  |  |
| Barium   | 150                             | 128                             | 169                             | 159                             | 153                             | 135                             | 142                             | 147                             | 133                             | 187                             | 158                             | 142                             | 138                             | 115                             | 136                             | 106                             | 134                             | 113                             | 110                             |                               |                               |                                  |  |
| Cadmium  | 8.61                            | 5.98                            | 5.98                            | 9.07                            | 92.1                            | 27.5                            | 37.6                            | 25.3                            | 9.5                             | 11.4                            | 6.6                             | 35.8                            | 20.8                            | 20.3                            | 29.6                            | 15.1                            | 62                              | 26.4                            | 26.3                            |                               |                               |                                  |  |
| Chromium   | 2.59                            | 2.07                            | 2.86                            | 1.86                            | 8.26                            | 2.86                            | 4.39                            | 2.67                            | 5.34                            | 3.73                            | 3.65                            | 5.05                            | 2.72                            | 2.8                             | 4.36                            | 4.05                            | 12.5                            | 3.56                            | 9.1                             |                               |                               |                                  |  |
| Cobalt   | 4.63                            | 4.57                            | 5.21                            | 4.11                            | 14.6                            | 5.68                            | 6.56                            | 5.3                             | 5.3                             | 4.86                            | 5.27                            | 6.93                            | 5.81                            | 4.91                            | 5.05                            | 4.57                            | 11.5                            | 4.95                            | 7.28                            |                               |                               |                                  |  |
| Copper   | 393                             | 187                             | 196                             | 275                             | 5460                            | 1020                            | 1920                            | 822                             | 386                             | 229                             | 256                             | 2380                            | 708                             | 724                             | 822                             | 464                             | 3790                            | 787                             | 1080                            |                               |                               |                                  |  |
| Iron   | 15400                           | 16800                           | 17200                           | 14300                           | 21200                           | 15500                           | 16000                           | 15400                           | 15900                           | 15900                           | 15400                           | 16300                           | 21800                           | 15700                           | 15600                           | 14700                           | 18300                           | 15000                           | 16900                           |                               |                               |                                  |  |
| Lead   | 261                             | 241                             | 233                             | 373                             | 5570                            | 1290                            | 1640                            | 1130                            | 400                             | 428                             | 222                             | 1420                            | 959                             | 807                             | 1110                            | 575                             | 1690                            | 828                             | 677                             |                               |                               |                                  |  |
| Mercury  | 0.113 J                         | 0.0639 J                        | 0.0879 J                        | 0.0201 J                        | 0.436                           | 0.218                           | 0.91                            | 0.105 J                         | 0.712                           | 0.0204 J                        | 0.304                           | 0.302                           | 0.0705 J                        | 0.0848 J                        | 0.564                           | 0.0708 J                        | 1.14                            | 0.241                           | 0.115 J                         |                               |                               |                                  |  |
| Molybdenum   | 1.68 J                          | 0.615 J                         | 0.728 J                         | 0.661 J                         | 26.5                            | 4.08                            | 7.22                            | 2.73                            | 1.53 J                          | 1.92                            | 1.06 J                          | 8.34                            | 2.17                            | 2.56                            | 2.82                            | 2.13                            | 34.1                            | 4.34                            | 12                              |                               |                               |                                  |  |
| Nickel   | 3.97                            | 3.49                            | 3.96                            | 3.49                            | 22.1                            | 6.55                            | 8.64                            | 6.3                             | 5.59                            | 3.69                            | 4.89                            | 9.95                            | 5.73                            | 5.29                            | 6.1                             | 5.17                            | 12.3                            | 5.51                            | 9.23                            |                               |                               |                                  |  |
| Selenium   | 0.817 J                         | 0.372 J                         | 0.544 J                         | 0.477 J                         | 16.3                            | 3.45                            | 3.98                            | 2.69                            | 1.44                            | 1.18                            | 1.42                            | 3.69                            | 2.39                            | 1.87                            | 2.62                            | 1.37                            | 4.24                            | 1.98                            | 1.76                            |                               |                               |                                  |  |
| Silver   | 1.55                            | 0.191 J                         | 0.759                           | 0.279 J                         | 44.5                            | 4.44                            | 7.84                            | 2.49                            | 3.31                            | 1.36                            | 1.31                            | 9.25                            | 1.42                            | 1.86                            | 3.58                            | 0.99                            | 14.5                            | 2.27                            | 3.15                            |                               |                               |                                  |  |
| Thallium   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                               |                               |                                  |  |
| Zinc   | 170                             | 143                             | 129                             | 198                             | 3270                            | 675                             | 950                             | 542                             | 186                             | 208                             | 133                             | 1080                            | 472                             | 422                             | 492                             | 312                             | 1870                            | 521                             | 642                             |                               |                               |                                  |  |
| <b>Metals (mg/kg)<sup>1</sup></b>                          |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                               |                               |                                  |  |
| Arsenic  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 | 235                           | 27                            | 40                               |  |
| Cadmium  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 | 34                            | 12                            | 11                               |  |
| Chromium   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 | 130                           | 90                            | <80                              |  |
| Copper   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 | 1790                          | 46                            | 56                               |  |
| Iron   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 | 38000                         | 23000                         | 15000                            |  |
| Lead   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 | 1180                          | 46                            | 73                               |  |
| Selenium   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 | <20                           | <20                           | <20                              |  |
| Zinc   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 | 1940                          | 18                            | <10                              |  |

Notes are included on Page 2.

**Table F-1**  
**Soil Analytical Data - East Mountain Area**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BL45<br>0 - 0.17<br>6/27/2001 | BL46<br>0 - 0.17<br>6/28/2001 | BL47<br>0 - 0.17<br>6/27/2001 | BL48<br>0 - 0.17<br>6/28/2001 | E140-33<br>0 - 0.5<br>7/31/2012 | E140-33<br>0 - 0.5<br>7/31/2012 | E140-37<br>0 - 0.5<br>8/1/2012 | E140-37<br>0.5 - 1<br>8/1/2012 | E140-38<br>0 - 0.5<br>8/7/2012 | E140-39<br>0 - 0.5<br>7/31/2012 | E140-41<br>0 - 0.5<br>7/31/2012 | E140-41<br>0.5 - 1<br>7/31/2012 | E140-42<br>0 - 0.5<br>8/1/2012 | E140-42<br>0 - 0.5<br>8/7/2012 | E140-42<br>0.5 - 1<br>8/7/2012 | E140-43<br>0 - 0.5<br>8/1/2012 | E140-43<br>0 - 0.5<br>8/1/2012 | E140-43<br>0.5 - 1<br>8/1/2012 | E140-44<br>0 - 0.5<br>7/31/2012 | E140-44<br>0.5 - 1<br>7/31/2012 |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|---------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                               |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                 |                                 |
| Antimony   |                               |                               |                               |                               | <0.235                          | <0.211                          | 3.76                           | 2.49 J                         | 2.29 J                         | 0.588 J                         | 0.918 J                         | 2.54 J                          | 3.13                           | 6.35 J                         | 10.7                           | 1.79                           | 4.96                           | 0.415 J                        | <0.25 UJ                        | 17.6 J                          |
| Arsenic  |                               |                               |                               |                               | 4.75                            | 4.25                            | 170                            | 74.3                           | 33.2                           | 17.5                            | 29.9                            | 44.1                            | 114                            | 81.7                           | 187                            | 45.5                           | 63.9                           | 8.66                           | 209                             | 337                             |
| Barium   |                               |                               |                               |                               | 85.5 J                          | 277 J                           | 220                            | 189                            | 306                            | 158                             | 223                             | 342                             | 154                            | 132                            | 133                            | 122                            | 152                            | 52.3                           | 158                             | 183                             |
| Cadmium  |                               |                               |                               |                               | 0.0431 J                        | 0.331 J                         | 28.2                           | 6.15                           | 4.04                           | 0.718                           | 6.15                            | 1.31                            | 36.3                           | 28.3                           | 66.2                           | 15.2 J                         | 17.8                           | 4                              | 116                             | 132                             |
| Chromium   |                               |                               |                               |                               | 1.05                            | 1.7                             | 9.54                           | 9.94                           | 9.72                           | 4.66                            | 5.52                            | 3.81                            | 3.53                           | 4                              | 5.25                           | 6.92                           | 6.66                           | 3.11                           | 36                              | 8.87                            |
| Cobalt   |                               |                               |                               |                               | 2.43 J                          | 3.83 J                          | 6.32                           | 6.33                           | 6.11                           | 4.88                            | 7.26                            | 4.78                            | 5.01                           | 4.82                           | 7.61                           | 5.68                           | 6.54                           | 2.98                           | <0.0262                         | 11.1                            |
| Copper   |                               |                               |                               |                               | 2.83                            | 4.77                            | 1370                           | 284                            | 125                            | 27.3                            | 195                             | 27.2                            | 820                            | 703                            | 1700                           | 752 J                          | 1030 J                         | 93.1                           | 6.4                             | 3030                            |
| Iron   |                               |                               |                               |                               | 3910 J                          | 6410 J                          | 10500                          | 10300 J                        | 13700                          | 7350                            | 10700                           | 7850 J                          | 8250                           | 10400                          | 9810                           | 12000                          | 12700                          | 6280 J                         | 11500                           | 12500 J                         |
| Lead   |                               |                               |                               |                               | 2.51 J                          | 4.15 J                          | 795                            | 163                            | 91.2                           | 16.6                            | 120                             | 16.8                            | 825                            | 695                            | 1490                           | 355                            | 558                            | 69.9                           | 2350                            | 2380                            |
| Mercury  |                               |                               |                               |                               | <0.016                          | <0.0141                         | 1.01                           | 0.294 J                        | 0.142 J                        | 0.114 J                         | 0.201                           | 0.145 J                         | 0.775                          | 0.582                          | 1.35                           | 0.0691 J                       | 0.123                          | 0.0378 J                       | 1.06                            | 1.82 J                          |
| Molybdenum   |                               |                               |                               |                               | <0.11                           | 0.353 J                         | 8.12                           | 2.54                           | 0.784 J                        | <0.114                          | 0.89 J                          | 0.302 J                         | 3.08                           | 4.68                           | 8.78                           | 4.3 J                          | 5.96 J                         | 0.348 J                        | 23.3                            | 20.5                            |
| Nickel   |                               |                               |                               |                               | 1.98                            | 3.15                            | 9.34                           | 8.78                           | 11.6                           | 4.95                            | 6.8                             | 4.53                            | 6.59                           | 5.86                           | 10.2                           | 8.01                           | 9.34                           | 3.75                           | 62.1                            | 13.8                            |
| Selenium   |                               |                               |                               |                               | <0.174                          | <0.156                          | 2.75                           | 1.15                           | 0.908 J                        | 0.328 J                         | 0.6 J                           | 0.866 J                         | 2.03                           | 1.82                           | 4.42                           | 0.572 J                        | 1.79                           | <0.196                         | <0.185                          | 7.5                             |
| Silver   |                               |                               |                               |                               | <0.0968                         | <0.0867                         | 6.95                           | 1.03                           | 0.484 J                        | <0.1                            | 0.325 J                         | <0.112                          | 3.45                           | 2.64 J                         | 9.47                           | 1.41                           | 2.45 J                         | 0.142 J                        | 9.86                            | 14.2                            |
| Thallium   |                               |                               |                               |                               |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                |                                |                                | 0.493                          |                                |                                 |                                 |
| Zinc   |                               |                               |                               |                               | 18.2 J                          | 27.1 J                          | 601                            | 173                            | 109                            | 53.6 J                          | 164 J                           | 46.5                            | 614                            | 499                            | 1090                           | 402                            | 486                            | 75.6                           | 1800 J                          | 2020                            |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                               |                               |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                 |                                 |
| Arsenic  | 37                            | 36                            | 33                            | 39                            |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                 |                                 |
| Cadmium  | <10                           | <10                           | <10                           | 10                            |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                 |                                 |
| Chromium   | 85                            | <80                           | 83                            | 83                            |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                 |                                 |
| Copper   | 38                            | 48                            | 46                            | 109                           |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                 |                                 |
| Iron   | 26000                         | 22000                         | 22000                         | 20000                         |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                 |                                 |
| Lead   | 36                            | 47                            | 42                            | 96                            |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                 |                                 |
| Selenium   | <20                           | <20                           | <20                           | <20                           |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                 |                                 |
| Zinc   | 59                            | 62                            | 79                            | 118                           |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                 |                                 |

**Notes:**  
<sup>1</sup> Samples analysed using field x-ray diffraction method  
ft bgs = sample interval in feet below ground surface  
mg/kg = miligram per kilogram

**Laboratory Qualifiers:**  
-12  
U = Compound was analyzed for but not detected. The value shown in the laboratory method detection limit.

**Table F-2**  
**Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH11-10<br>0 - 1<br>5/9/2001 | BH11-10<br>1 - 2<br>5/9/2001 | BH11-10<br>2 - 3<br>5/9/2001 | BH11-10<br>3 - 4<br>5/9/2001 | BH11-11<br>0 - 1<br>5/9/2001 | BH11-11<br>1 - 2<br>5/9/2001 | BH11-11<br>2 - 3<br>5/9/2001 | BH11-11<br>3 - 4<br>5/9/2001 | BH11-12<br>0 - 1<br>5/9/2001 | BH11-12<br>1 - 2<br>5/9/2001 | BH11-12<br>2 - 3<br>5/9/2001 | BH11-12<br>3 - 4<br>5/9/2001 | BH11-13<br>0 - 1<br>5/9/2001 | BH11-13<br>1 - 2<br>5/9/2001 | BH11-13<br>2 - 3<br>5/9/2001 | BH11-14<br>0 - 1<br>5/9/2001 | BH11-14<br>1 - 2<br>5/9/2001 | BH11-14<br>2 - 3<br>5/9/2001 | BH11-14<br>3 - 4<br>5/9/2001 |
|--|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>Metals (mg/kg)</b>                                      |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Antimony   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Arsenic  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Barium   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Cadmium  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Chromium   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Cobalt   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Copper   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Iron   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Lead   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Mercury  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Molybdenum   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Nickel   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Selenium   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Silver   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Thallium   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Zinc   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Arsenic  | 110                          | 55                           | 68                           | 41                           | 180                          | 63                           | 71                           | 60                           | 270                          | 35                           | 23                           | 46                           | 91                           | 40                           | 21                           | 140                          | 84                           | 32                           | 33                           |
| Cadmium  | 14                           | 13                           | 12                           | 18                           | 48                           | 26                           | 19                           | 23                           | 53                           | 11                           | 15                           | 14                           | 18                           | 12                           | 15                           | 38                           | <10                          | <10                          | 12                           |
| Chromium   | 81                           | <80                          | <80                          | <80                          | 87                           | <80                          | <80                          | 92                           | 92                           | <80                          | <80                          | <80                          | 110                          | <80                          | <80                          | 95                           | <80                          | <80                          | <80                          |
| Copper   | 930                          | 280                          | 700                          | 280                          | 2000                         | 870                          | 590                          | 650                          | 2700                         | 200                          | 130                          | 280                          | 810                          | 360                          | 100                          | 1800                         | 820                          | 200                          | 300                          |
| Iron   | 24000                        | 20000                        | 16000                        | 12000                        | 29000                        | 16000                        | 14000                        | 16000                        | 33000                        | 11000                        | 11000                        | 13000                        | 31000                        | 11000                        | 14000                        | 27000                        | 16000                        | 12000                        | 14000                        |
| Lead   | 620                          | 320                          | 640                          | 260                          | 1500                         | 760                          | 520                          | 590                          | 1900                         | 200                          | 130                          | 300                          | 370                          | 360                          | 120                          | 990                          | 640                          | 180                          | 290                          |
| Selenium   | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          |
| Zinc   | 720                          | 190                          | 440                          | 180                          | 1200                         | 520                          | 390                          | 360                          | 1700                         | 170                          | 77                           | 190                          | 620                          | 290                          | 75                           | 1100                         | 470                          | 92                           | 180                          |
| <b>VOCs (mg/kg)</b>  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| 1,1,1-Trichloroethane                                      |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| 1,1,2-Trichloroethane                                      |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| 1,2-Dichlorobenzene  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| 4-Methyl-2-pentanone (MIBK)                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Acetone  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Carbon tetrachloride                                       |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Chlorobenzene  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Cyclohexane  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Dichlorodifluoromethane                                    |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Ethyl acetate  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Ethyl ether  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Ethylbenzene   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Methylene chloride   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Tetrachloroethene  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Total Xylenes  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Trichloroethene  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Trichlorofluoromethane                                     |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| <b>SVOCs (mg/kg)</b>                                       |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Hexachlorocyclopentadiene                                  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| <b>Pesticides (mg/kg)</b>                                  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Chlordane  |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Endrin   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| Methyl parathion   |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |

Notes are included on Page 20.

**Table F-2**  
**Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH11-2<br>0 - 0.33<br>7/19/1999 | BH11-2<br>10 - 12<br>8/4/1999 | BH11-2<br>15 - 17<br>8/4/1999 | BH11-2<br>20 - 22<br>8/4/1999 | BH11-2<br>25 - 27<br>8/5/1999 | BH11-2<br>30 - 32<br>8/5/1999 | BH11-2<br>35 - 37<br>8/5/1999 | BH11-2<br>40 - 42<br>8/5/1999 | BH11-2<br>6 - 8<br>7/19/1999 | BH11-24<br>15 - 16<br>7/20/2001 | BH11-25<br>10 - 11<br>7/20/2001 | BH11-26<br>0 - 1<br>4/30/2001 | BH11-26<br>1 - 2<br>4/30/2001 | BH11-26<br>10 - 11<br>4/30/2001 | BH11-26<br>15 - 16<br>4/30/2001 | BH11-26<br>2 - 3<br>4/30/2001 | BH11-26<br>25 - 26<br>4/30/2001 | BH11-26<br>3 - 4<br>4/30/2001 | BH11-26<br>4 - 5<br>4/30/2001 |
|--|---------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|-------------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Antimony   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Arsenic  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Barium   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Cadmium  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Chromium   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Cobalt   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Copper   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Iron   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Lead   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Mercury  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Molybdenum   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Nickel   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Selenium   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Silver   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Thallium   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Zinc   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Arsenic  | 210                             | 17                            | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | 340                          | 24                              | 22                              | 34                            | 15                            | 15                              | 25                              | 15                            | 22                              | 16                            | 33                            |
| Cadmium  | 36                              | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | 120                          | 11                              | <10                             | 10                            | 12                            | <10                             | <10                             | <10                           | <10                             | <10                           | <10                           |
| Chromium   | <80                             | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                          | <80                             | <80                             | <80                           | <80                           | <80                             | <80                             | <80                           | <80                             | <80                           | <80                           |
| Copper   | 1700                            | 28                            | <20                           | 27                            | 39                            | <20                           | <20                           | <20                           | 1900                         | <20                             | 24                              | 120                           | 23                            | 44                              | 65                              | 25                            | 37                              | 32                            | 66                            |
| Iron   | 39000                           | 24000                         | 15000                         | 21000                         | 15000                         | 24000                         | 15000                         | 18000                         | 27000                        | 17000                           | 14000                           | 17000                         | 11000                         | 11000                           | 4000                            | 6700                          | 9400                            | 3800                          | 11000                         |
| Lead   | 660                             | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | 3300                         | 43                              | 26                              | 170                           | 73                            | 51                              | 56                              | 57                            | 48                              | 51                            | 59                            |
| Selenium   | 11                              | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | 33                           | <20                             | <20                             | <20                           | <20                           | <20                             | <20                             | <20                           | <20                             | <20                           | <20                           |
| Zinc   | 1600                            | 20                            | 16                            | 34                            | <10                           | 22                            | 15                            | 15                            | 1400                         | <10                             | <10                             | 77                            | 14                            | <10                             | <10                             | <10                           | <10                             | <10                           | <10                           |
| <b>VOCs (mg/kg)</b>  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| 1,1,1-Trichloroethane                                      |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| 1,1,2-Trichloroethane                                      |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| 1,2-Dichlorobenzene  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| 4-Methyl-2-pentanone (MIBK)                                |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Acetone  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Carbon tetrachloride                                       |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Chlorobenzene  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Cyclohexane  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Dichlorodifluoromethane                                    |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Ethyl acetate  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Ethyl ether  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Ethylbenzene   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Methylene chloride   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Tetrachloroethene  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Total Xylenes  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Trichloroethene  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Trichlorofluoromethane                                     |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| <b>SVOCs (mg/kg)</b>                                       |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Hexachlorocyclopentadiene                                  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| <b>Pesticides (mg/kg)</b>                                  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Chlordane  |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Endrin   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |
| Methyl parathion   |                                 |                               |                               |                               |                               |                               |                               |                               |                              |                                 |                                 |                               |                               |                                 |                                 |                               |                                 |                               |                               |

Notes are included on Page 20.

**Table F-2**  
**Soil Analytical Data - East Property**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH11-3<br>10 - 12<br>8/5/1999 | BH11-4<br>1 - 2<br>8/5/1999 | BH11-4<br>10 - 12<br>8/5/1999 | BH11-4<br>15 - 17<br>8/5/1999 | BH11-4<br>2 - 3<br>8/5/1999 | BH11-4<br>3 - 4<br>8/5/1999 | BH11-4<br>4 - 5<br>8/5/1999 | BH11-5<br>0 - 1<br>5/9/2001 | BH11-5<br>1 - 2<br>5/9/2001 | BH11-5<br>2 - 3<br>5/9/2001 | BH11-5<br>3 - 4<br>5/9/2001 | BH11-6<br>0 - 1<br>5/9/2001 | BH11-6<br>1 - 2<br>5/9/2001 | BH11-7<br>0 - 1<br>5/9/2001 | BH11-7<br>1 - 2<br>5/9/2001 | BH11-7<br>2 - 3<br>5/9/2001 | BH11-8<br>0 - 1<br>5/9/2001 | BH11-8<br>1 - 2<br>5/9/2001 | BH11-8<br>2 - 3<br>5/9/2001 |  |
|--|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Antimony   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Arsenic  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Barium   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Cadmium  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Chromium   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Cobalt   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Copper   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Iron   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Lead   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Mercury  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Molybdenum   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Nickel   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Selenium   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Silver   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Thallium   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Zinc   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Arsenic  | 55                            | 46                          | <10                           | <10                           | 33                          | <10                         | 19                          | 170                         | 45                          | 35                          | 41                          | 95                          | 140                         | 82                          | 89                          | 54                          | 98                          | 190                         | 53                          |  |
| Cadmium  | 17                            | <10                         | <10                           | <10                           | <10                         | <10                         | <10                         | 31                          | 18                          | <10                         | <10                         | 31                          | 32                          | 18                          | 26                          | <10                         | 22                          | 36                          | 16                          |  |
| Chromium   | <80                           | <80                         | <80                           | <80                           | <80                         | <80                         | <80                         | <80                         | <80                         | <80                         | <80                         | <80                         | <80                         | 87                          | <80                         | <80                         | 86                          | <80                         | <80                         |  |
| Copper   | 830                           | 73                          | <20                           | <20                           | 46                          | 69                          | 35                          | 2000                        | 490                         | 270                         | 480                         | 1300                        | 1400                        | 830                         | 1300                        | 380                         | 1300                        | 1800                        | 500                         |  |
| Iron   | 33000                         | 24000                       | 12000                         | 21000                         | 30000                       | 23000                       | 24000                       | 30000                       | 14000                       | 12000                       | 14000                       | 22000                       | 20000                       | 22000                       | 17000                       | 14000                       | 29000                       | 23000                       | 15000                       |  |
| Lead   | 1000                          | 17                          | <10                           | <10                           | 20                          | <10                         | 11                          | 1400                        | 460                         | 280                         | 410                         | 930                         | 980                         | 540                         | 960                         | 370                         | 640                         | 1700                        | 440                         |  |
| Selenium   | <10                           | <10                         | <10                           | <10                           | <10                         | <10                         | <10                         | <20                         | <20                         | <20                         | <20                         | <20                         | <20                         | <20                         | <20                         | <20                         | <20                         | <20                         | <20                         |  |
| Zinc   | 520                           | 200                         | 12                            | 28                            | 170                         | 92                          | 51                          | 1200                        | 340                         | 180                         | 260                         | 770                         | 830                         | 620                         | 680                         | 260                         | 930                         | 1100                        | 240                         |  |
| <b>VOCs (mg/kg)</b>  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| 1,1,1-Trichloroethane                                      |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| 1,1,2-Trichloroethane                                      |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| 1,2-Dichlorobenzene  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Acetone  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Carbon tetrachloride                                       |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Chlorobenzene  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Cyclohexane  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Dichlorodifluoromethane                                    |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Ethyl acetate  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Ethyl ether  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Ethylbenzene   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Methylene chloride   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Tetrachloroethene  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Total Xylenes  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Trichloroethene  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Trichlorofluoromethane                                     |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| <b>SVOCs (mg/kg)</b>                                       |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Hexachlorocyclopentadiene                                  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| <b>Pesticides (mg/kg)</b>                                  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Chlordane  |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Endrin   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |
| Methyl parathion   |                               |                             |                               |                               |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |  |

Notes are included on Page 20.

**Table F-2**  
**Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH11-8<br>3 - 4<br>5/9/2001 | BH11-9<br>0 - 1<br>5/9/2001 | BH11-9<br>1 - 2<br>5/9/2001 | BH11-9<br>2 - 3<br>5/9/2001 | BL14<br>0 - 0.17<br>6/7/2000 | BL17<br>0 - 0.17<br>6/5/2000 | BL18<br>0 - 0.17<br>6/5/2000 | BL3<br>0 - 0.2<br>7/27/2000 | BL3<br>10 - 11.5<br>7/27/2000 | BL3<br>14 - 15.5<br>7/27/2000 | BL3<br>16.5 - 17<br>7/31/2000 | BL3<br>21.3 - 21.8<br>7/31/2000 | BL3<br>5 - 6.5<br>7/27/2000 | BL39<br>0 - 0.17<br>6/27/2001 | BL39<br>0.17 - 0.33<br>6/27/2001 | BL4<br>0 - 0.2<br>7/28/2000 | BL4<br>10 - 11.5<br>7/28/2000 | BL4<br>15 - 16.5<br>7/28/2000 | BL4<br>17.5 - 18<br>7/31/2000 |
|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|---------------------------------|-----------------------------|-------------------------------|----------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Antimony   |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Arsenic  |                             |                             |                             |                             | 15                           | 30                           | 46                           | <20                         | <20                           | <20                           | 12                            | 13                              | 32                          |                               |                                  | <20                         | <20                           | <20                           | <10                           |
| Barium   |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Cadmium  |                             |                             |                             |                             | <10                          | <10                          | <10                          | <10                         | <10                           | <10                           | <10                           | <10                             | <10                         |                               |                                  | <10                         | <10                           | <10                           | <10                           |
| Chromium   |                             |                             |                             |                             | 93                           | 114                          | 107                          | 158                         | 91                            | 102                           | 69                            | 69                              | 126                         |                               |                                  | 105                         | 58                            | 76                            | 61                            |
| Cobalt   |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Copper   |                             |                             |                             |                             | 28                           | 114                          | 344                          | 156                         | 116                           | 112                           | 26                            | 24                              | 311                         |                               |                                  | 50                          | <20                           | 149                           | 71                            |
| Iron   |                             |                             |                             |                             | 25000                        | 22000                        | 16000                        | 20000                       | 23000                         | 22000                         | 21000                         | 16000                           | 21000                       |                               |                                  | 12000                       | 11000                         | 5700                          | 2400                          |
| Lead   |                             |                             |                             |                             | 24                           | 59                           | 197                          | 194                         | 106                           | 97                            | 19                            | 15                              | 285                         |                               |                                  | 77                          | 22                            | 52                            | 73                            |
| Mercury  |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Molybdenum   |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Nickel   |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Selenium   |                             |                             |                             |                             | <10                          | <10                          | <10                          | <20                         | <20                           | <20                           | <10                           | <10                             | <20                         |                               |                                  | <20                         | <20                           | <20                           | <10                           |
| Silver   |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Thallium   |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Zinc   |                             |                             |                             |                             | 111                          | 160                          | 267                          | 166                         | 140                           | 256                           | 99                            | 107                             | 279                         |                               |                                  | 85                          | 36                            | 48                            | 45                            |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Arsenic  | 43                          | 110                         | 59                          | 62                          | 21                           | 34                           | 30                           | <10                         | 11                            | 21                            | 13                            | <10                             | 34                          | 62                            | 51                               | <10                         | <10                           | <10                           | <10                           |
| Cadmium  | 14                          | 20                          | 10                          | 22                          | <10                          | <10                          | <10                          | <10                         | <10                           | <10                           | <10                           | <10                             | <10                         | <10                           | <10                              | <10                         | <10                           | <10                           | <10                           |
| Chromium   | <80                         | 110                         | <80                         | <80                         | <80                          | 140                          | 120                          | 170                         | 91                            | 110                           | <80                           | 180                             | 150                         | <80                           | <80                              | <80                         | 72                            | <80                           | 140                           |
| Copper   | 390                         | 1400                        | 510                         | 720                         | 52                           | 100                          | 440                          | 160                         | 98                            | 120                           | <20                           | 39                              | 340                         | 668                           | 101                              | 86                          | 30                            | 87                            | 120                           |
| Iron   | 15000                       | 30000                       | 16000                       | 18000                       | 25000                        | 21000                        | 19000                        | 18000                       | 23000                         | 22000                         | 20000                         | 16000                           | 21000                       | 20000                         | 16000                            | 14000                       | 15000                         | 7300                          | 3000                          |
| Lead   | 340                         | 670                         | 510                         | 620                         | 29                           | 71                           | 220                          | 190                         | 130                           | 110                           | 25                            | 25                              | 340                         | 414                           | 95                               | 85                          | 42                            | 61                            | 110                           |
| Selenium   | <20                         | <20                         | <20                         | <20                         | <10                          | <10                          | <10                          | <10                         | <10                           | <10                           | <10                           | <10                             | <10                         | <20                           | <20                              | <10                         | <10                           | <10                           | <10                           |
| Zinc   | 250                         | 1000                        | 380                         | 440                         | 69                           | 120                          | 250                          | 140                         | 120                           | 130                           | 50                            | 71                              | 240                         | 344                           | <10                              | 62                          | <10                           | 38                            | 14                            |
| <b>VOCs (mg/kg)</b>  |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| 1,1,1-Trichloroethane                                      |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| 1,1,2-Trichloroethane                                      |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| 1,2-Dichlorobenzene  |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| 4-Methyl-2-pentanone (MIBK)                                |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Acetone  |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Carbon tetrachloride                                       |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Chlorobenzene  |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Cyclohexane  |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Dichlorodifluoromethane                                    |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Ethyl acetate  |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Ethyl ether  |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Ethylbenzene   |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Methylene chloride   |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Tetrachloroethene  |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Total Xylenes  |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Trichloroethene  |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Trichlorofluoromethane                                     |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| <b>SVOCs (mg/kg)</b>                                       |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Hexachlorocyclopentadiene                                  |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| <b>Pesticides (mg/kg)</b>                                  |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Chlordane  |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Endrin   |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |
| Methyl parathion   |                             |                             |                             |                             |                              |                              |                              |                             |                               |                               |                               |                                 |                             |                               |                                  |                             |                               |                               |                               |

Notes are included on Page 20.

**Table F-2**  
**Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BL4<br>5 - 6<br>7/28/2000 | BL40<br>0 - 0.17<br>6/27/2001 | BL40<br>0.17 - 0.33<br>6/27/2001 | BL41<br>0 - 0.17<br>6/27/2001 | BL41<br>0.17 - 0.33<br>6/27/2001 | BL49<br>0 - 0.17<br>6/28/2001 | BL49<br>0.17 - 0.33<br>6/28/2001 | BL50<br>0 - 0.17<br>6/28/2001 | BL50<br>0.17 - 0.33<br>6/28/2001 | BL6<br>0 - 0.17<br>6/5/2000 | EP-129<br>0 - 1<br>5/2/2001 | EP-129<br>1 - 2<br>5/2/2001 | EP-129<br>10 - 11<br>5/2/2001 | EP-129<br>15 - 16<br>5/2/2001 | EP-129<br>2 - 3<br>5/2/2001 | EP-129<br>20 - 21<br>5/2/2001 | EP-129<br>25 - 26<br>5/2/2001 | EP-129<br>3 - 4<br>5/2/2001 | EP-129<br>4 - 5<br>5/2/2001 |  |
|--|---------------------------|-------------------------------|----------------------------------|-------------------------------|----------------------------------|-------------------------------|----------------------------------|-------------------------------|----------------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Antimony   |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Arsenic  | <20                       |                               |                                  |                               |                                  |                               |                                  |                               |                                  | <10                         |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Barium   |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Cadmium  | <10                       |                               |                                  |                               |                                  |                               |                                  |                               |                                  | <10                         |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Chromium   | 53                        |                               |                                  |                               |                                  |                               |                                  |                               |                                  | 221                         |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Cobalt   |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Copper   | <20                       |                               |                                  |                               |                                  |                               |                                  |                               |                                  | 16                          |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Iron   | 9300                      |                               |                                  |                               |                                  |                               |                                  |                               |                                  | 23000                       |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Lead   | <20                       |                               |                                  |                               |                                  |                               |                                  |                               |                                  | 21                          |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Mercury  |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Molybdenum   |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Nickel   |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Selenium   | <20                       |                               |                                  |                               |                                  |                               |                                  |                               |                                  | <10                         |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Silver   |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Thallium   |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Zinc   | 28                        |                               |                                  |                               |                                  |                               |                                  |                               |                                  | 64                          |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Arsenic  | <10                       | 54                            | 54                               | 20                            | 38                               | 62                            | 43                               | 187                           | 60                               | 27                          | 150                         | 33                          | 22                            | 26                            | 32                          | 37                            | 31                            | 21                          | 25                          |  |
| Cadmium  | <10                       | 18                            | <10                              | 12                            | <10                              | <10                           | <10                              | 47                            | <10                              | <10                         | 33                          | <10                         | <10                           | <10                           | <10                         | <10                           | <10                           | <10                         | <10                         |  |
| Chromium   | <80                       | 91                            | <80                              | <80                           | <80                              | <80                           | 83                               | 117                           | <80                              | 160                         | 98                          | <80                         | <80                           | <80                           | <80                         | <80                           | <80                           | <80                         | <80                         |  |
| Copper   | <20                       | 711                           | 177                              | 274                           | 284                              | 449                           | 34                               | 1940                          | 59                               | <20                         | 1600                        | 37                          | 59                            | 68                            | 22                          | 28                            | 80                            | 34                          | 63                          |  |
| Iron   | 14000                     | 22000                         | 13000                            | 13000                         | 11000                            | 24000                         | 16000                            | 32000                         | 13000                            | 24000                       | 30000                       | 22000                       | 15000                         | 18000                         | 23000                       | 18000                         | 16000                         | 18000                       | 18000                       |  |
| Lead   | 34                        | 440                           | 171                              | 205                           | 258                              | 245                           | 28                               | 1160                          | 64                               | 27                          | 910                         | 39                          | 48                            | 50                            | 36                          | 69                            | 64                            | 51                          | 40                          |  |
| Selenium   | <10                       | <20                           | <20                              | <20                           | <20                              | <20                           | <20                              | <20                           | <20                              | <10                         | <20                         | <20                         | <20                           | <20                           | <20                         | <20                           | <20                           | <20                         | <20                         |  |
| Zinc   | 17                        | 306                           | <10                              | 277                           | 105                              | 254                           | 14                               | 1440                          | <10                              | 35                          | 1300                        | 22                          | <10                           | <10                           | <10                         | <10                           | <10                           | <10                         | <10                         |  |
| <b>VOCs (mg/kg)</b>  |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| 1,1,1-Trichloroethane                                      |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| 1,1,2-Trichloroethane                                      |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| 1,2-Dichlorobenzene  |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| 4-Methyl-2-pentanone (MIBK)                                |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Acetone  |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Carbon tetrachloride                                       |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Chlorobenzene  |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Cyclohexane  |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Dichlorodifluoromethane                                    |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Ethyl acetate  |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Ethyl ether  |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Ethylbenzene   |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Methylene chloride   |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Tetrachloroethene  |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Total Xylenes  |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Trichloroethene  |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Trichlorofluoromethane                                     |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| <b>SVOCs (mg/kg)</b>                                       |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Hexachlorocyclopentadiene                                  |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| <b>Pesticides (mg/kg)</b>                                  |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Chlordane  |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Endrin   |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |
| Methyl parathion   |                           |                               |                                  |                               |                                  |                               |                                  |                               |                                  |                             |                             |                             |                               |                               |                             |                               |                               |                             |                             |  |

Notes are included on Page 20.



**Table F-2  
Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-84<br>0 - 0.5<br>6/11/1997 | EP-84<br>10 - 10<br>6/11/1997 | EP-84<br>15 - 15<br>6/11/1997 | EP-84<br>5 - 5<br>6/11/1997 | EP-87<br>0 - 0.5<br>6/16/1997 | EP-87<br>10 - 10<br>6/16/1997 | EP-87<br>5 - 5<br>6/16/1997 | EP-93<br>25 - 27<br>7/21/1999 | EP-93<br>30 - 32<br>7/21/1999 | EP-93<br>35 - 37<br>7/21/1999 | EP-93<br>40 - 42<br>7/21/1999 | EP-93<br>45 - 47<br>7/21/1999 | EP-93<br>50 - 52<br>7/21/1999 | EP-94<br>10 - 12<br>7/26/1999 | EP-94<br>20 - 22<br>7/26/1999 | EP-94<br>25 - 27<br>7/26/1999 | EP-94<br>30 - 32<br>7/26/1999 | EP-94<br>35 - 37<br>7/26/1999 | EP-94<br>4 - 5<br>7/26/1999 |
|--|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Antimony   |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Arsenic  | <20                           | <20                           | <20                           | <20                         | <20                           | <20                           | <20                         |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Barium   |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Cadmium  | 14                            | <10                           | <10                           | 16                          | <10                           | <10                           | <10                         |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Chromium   | 47                            | 29                            | 48                            | 65                          | 86                            | <30                           | <30                         |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Cobalt   |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Copper   | 490                           | 47                            | 33                            | 490                         | 20                            | <20                           | 41                          |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Iron   | 22000                         | 24000                         | 22000                         | 23000                       | 14000                         | 12000                         | 14000                       |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Lead   | 500                           | 61                            | 33                            | 500                         | 14                            | 11                            | 54                          |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Mercury  |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Molybdenum   |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Nickel   |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Selenium   | <10                           | <10                           | <10                           | <10                         | <10                           | <10                           | <10                         |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Silver   |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Thallium   |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Zinc   | 390                           | 98                            | 110                           | 380                         | 42                            | 19                            | 68                          |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Arsenic  |                               |                               |                               |                             |                               |                               |                             | <20                           | <20                           | <20                           | <20                           | <10                           | <10                           | 36                            | 130                           | <10                           | <10                           | 27                            | 680                         |
| Cadmium  |                               |                               |                               |                             |                               |                               |                             | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | 17                            | 85                            | <10                           | <10                           | <10                           | 170                         |
| Chromium   |                               |                               |                               |                             |                               |                               |                             | <80                           | 140                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                         |
| Copper   |                               |                               |                               |                             |                               |                               |                             | 39                            | <20                           | <20                           | 57                            | <20                           | 21                            | 1900                          | 2000                          | 28                            | 88                            | 54                            | 150000                      |
| Iron   |                               |                               |                               |                             |                               |                               |                             | 22000                         | 23000                         | 19000                         | 24000                         | 24000                         | 24000                         | 15000                         | 22000                         | 22000                         | 21000                         | 32000                         | 65000                       |
| Lead   |                               |                               |                               |                             |                               |                               |                             | 38                            | 49                            | 42                            | 39                            | <10                           | <10                           | 580                           | 1200                          | 40                            | <10                           | 40                            | 3400                        |
| Selenium   |                               |                               |                               |                             |                               |                               |                             | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | 34                          |
| Zinc   |                               |                               |                               |                             |                               |                               |                             | 39                            | 51                            | 15                            | 69                            | 36                            | 34                            | 370                           | 990                           | 33                            | 47                            | 33                            | 2900                        |
| <b>VOCs (mg/kg)</b>  |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| 1,1,1-Trichloroethane                                      |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| 1,1,2-Trichloroethane                                      |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| 1,2-Dichlorobenzene  |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Acetone  |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Carbon tetrachloride                                       |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Chlorobenzene  |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Cyclohexane  |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Dichlorodifluoromethane                                    |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Ethyl acetate  |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Ethyl ether  |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Ethylbenzene   |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Methylene chloride   |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Tetrachloroethene  |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Total Xylenes  |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Trichloroethene  |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Trichlorofluoromethane                                     |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| <b>SVOCs (mg/kg)</b>                                       |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Hexachlorocyclopentadiene                                  |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| <b>Pesticides (mg/kg)</b>                                  |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Chlordane  |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Endrin   |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |
| Methyl parathion   |                               |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |

Notes are included on Page 20.

**Table F-2**  
**Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-94<br>40 - 42<br>7/26/1999 | EP-94<br>45 - 47<br>7/26/1999 | EP-94<br>50 - 52<br>7/26/1999 | EP-94<br>55 - 57<br>7/26/1999 | EP-95<br>0 - 1<br>7/28/1999 | EP-95<br>1 - 1<br>7/28/1999 | EP-95<br>2 - 2<br>7/28/1999 | EP-95<br>3 - 3<br>7/28/1999 | EP-95<br>4 - 4<br>7/28/1999 | EP-95R<br>0 - 1<br>10/18/1999 | EP-95R<br>1 - 2<br>10/18/1999 | EP-95R<br>10 - 12<br>10/18/1999 | EP-95R<br>15 - 17<br>10/18/1999 | EP-95R<br>2 - 3<br>10/18/1999 | EP-95R<br>20 - 22<br>10/18/1999 | EP-95R<br>25 - 27<br>10/18/1999 | EP-95R<br>3 - 4<br>10/18/1999 | EP-95R<br>30 - 32<br>10/20/1999 | EP-95R<br>35 - 37<br>10/20/1999 |  |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Antimony   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Arsenic  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Barium   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Cadmium  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Chromium   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Cobalt   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Copper   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Iron   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Lead   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Mercury  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Molybdenum   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Nickel   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Selenium   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Silver   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Thallium   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Zinc   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Arsenic  | <10                           | <10                           | <10                           | <10                           | <10                         | <10                         | 13                          | <10                         | <10                         | 26                            | <10                           | <10                             | <10                             | <10                           | <10                             | 16                              | <10                           | <10                             | <10                             |  |
| Cadmium  | <10                           | <10                           | <10                           | <10                           | <10                         | <10                         | <10                         | <10                         | <10                         | <10                           | <10                           | <10                             | <10                             | <10                           | <10                             | <10                             | <10                           | <10                             | <10                             |  |
| Chromium   | <80                           | <80                           | <80                           | <80                           | <80                         | <80                         | <80                         | <80                         | <80                         | <80                           | <80                           | <80                             | <80                             | <80                           | <80                             | <80                             | <80                           | <80                             | <80                             |  |
| Copper   | 72                            | 26                            | 150                           | 49                            | 230                         | 75                          | 160                         | <20                         | 50                          | 290                           | 79                            | <20                             | <20                             | <20                           | 21                              | <20                             | <20                           | <20                             | <20                             |  |
| Iron   | 12000                         | 12000                         | 11000                         | 18000                         | 20000                       | 22000                       | 22000                       | 16000                       | 14000                       | 23000                         | 20000                         | 13000                           | 11000                           | 22000                         | 5700                            | 24000                           | 18000                         | 18000                           | 21000                           |  |
| Lead   | <10                           | <10                           | <10                           | <10                           | 190                         | 120                         | 150                         | 21                          | <10                         | 250                           | 130                           | 48                              | 40                              | 68                            | 39                              | 39                              | 87                            | 30                              | 39                              |  |
| Selenium   | 12                            | <10                           | <10                           | <10                           | <10                         | <10                         | <10                         | <10                         | <10                         | <10                           | <10                           | <10                             | <10                             | <10                           | <10                             | <10                             | <10                           | <10                             | <10                             |  |
| Zinc   | 20                            | <10                           | 29                            | 12                            | 140                         | 94                          | 110                         | 24                          | 22                          | 260                           | 98                            | <10                             | <10                             | 50                            | <10                             | 43                              | 25                            | 35                              | 15                              |  |
| <b>VOCs (mg/kg)</b>  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| 1,1,1-Trichloroethane                                      |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| 1,1,2-Trichloroethane                                      |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| 1,2-Dichlorobenzene  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Acetone  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Carbon tetrachloride                                       |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Chlorobenzene  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Cyclohexane  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Dichlorodifluoromethane                                    |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Ethyl acetate  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Ethyl ether  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Ethylbenzene   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Methylene chloride   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Tetrachloroethene  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Total Xylenes  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Trichloroethene  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Trichlorofluoromethane                                     |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| <b>SVOCs (mg/kg)</b>                                       |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Hexachlorocyclopentadiene                                  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| <b>Pesticides (mg/kg)</b>                                  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Chlordane  |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Endrin   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Methyl parathion   |                               |                               |                               |                               |                             |                             |                             |                             |                             |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |

Notes are included on Page 20.

**Table F-2  
Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-95R<br>4 - 5<br>10/18/1999 | EP-96<br>25 - 27<br>7/20/1999 | EP-96<br>30 - 32<br>7/20/1999 | EP-96<br>35 - 37<br>7/20/1999 | EP-96<br>40 - 42<br>7/20/1999 | EP-96<br>45 - 47<br>7/20/1999 | EP-96<br>50 - 52<br>7/20/1999 | EP-96<br>55 - 57<br>7/20/1999 | EP-96<br>60 - 62<br>7/20/1999 | EP-97<br>0 - 1<br>8/4/1999 | EP-97<br>1 - 2<br>8/4/1999 | EP-97<br>2 - 3<br>8/4/1999 | EP-98<br>0 - 1<br>8/6/1999 | EP-98<br>1 - 2<br>8/6/1999 | EP-98<br>1 - 3<br>8/6/1999 | EP-98<br>10 - 12<br>8/6/1999 | EP-98<br>15 - 17<br>8/6/1999 | EP-98<br>20 - 22<br>8/6/1999 | EP-98<br>3 - 4<br>8/6/1999 |  |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|------------------------------|------------------------------|------------------------------|----------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Antimony   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Arsenic  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Barium   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Cadmium  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Chromium   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Cobalt   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Copper   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Iron   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Lead   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Mercury  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Molybdenum   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Nickel   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Selenium   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Silver   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Thallium   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Zinc   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Arsenic  | <10                           | <20                           | 25                            | <20                           | <20                           | <20                           | <20                           | 31                            | <20                           | 64                         | 46                         | 71                         | 41                         | <10                        | <10                        | <10                          | <10                          | <10                          | <10                        |  |
| Cadmium  | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | 19                         | 20                         | 16                         | 12                         | <10                        | <10                        | <10                          | <10                          | <10                          | <10                        |  |
| Chromium   | <80                           | <80                           | 84                            | <80                           | <80                           | <80                           | 188                           | <80                           | <80                           | <80                        | <80                        | <80                        | <80                        | <80                        | <80                        | <80                          | <80                          | <80                          | <80                        |  |
| Copper   | 94                            | <20                           | <20                           | 33                            | 47                            | 41                            | 32                            | 37                            | 12                            | 690                        | 640                        | 800                        | 210                        | 44                         | 37                         | 41                           | <20                          | <20                          | <20                        |  |
| Iron   | 19000                         | 24000                         | 27000                         | 23000                         | 23000                         | 20000                         | 20000                         | 28000                         | 21000                         | 33000                      | 32000                      | 30000                      | 25000                      | 20000                      | 10000                      | 8000                         | 13000                        | 14000                        | 8500                       |  |
| Lead   | 110                           | 50                            | 11                            | 49                            | 54                            | 46                            | 49                            | 37                            | 27                            | 340                        | 340                        | 500                        | 250                        | <10                        | <10                        | <10                          | <10                          | <10                          | <10                        |  |
| Selenium   | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                        | <10                        | <10                        | <10                        | <10                        | <10                        | <10                          | <10                          | <10                          | <10                        |  |
| Zinc   | 61                            | 34                            | 56                            | 65                            | 43                            | 41                            | 30                            | 58                            | 57                            | 470                        | 450                        | 470                        | 320                        | 32                         | <10                        | <10                          | 14                           | 28                           | 19                         |  |
| <b>VOCs (mg/kg)</b>  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| 1,1,1-Trichloroethane                                      |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| 1,1,2-Trichloroethane                                      |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| 1,2-Dichlorobenzene  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Acetone  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Carbon tetrachloride                                       |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Chlorobenzene  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Cyclohexane  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Dichlorodifluoromethane                                    |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Ethyl acetate  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Ethyl ether  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Ethylbenzene   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Methylene chloride   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Tetrachloroethene  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Total Xylenes  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Trichloroethene  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Trichlorofluoromethane                                     |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| <b>SVOCs (mg/kg)</b>                                       |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Hexachlorocyclopentadiene                                  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| <b>Pesticides (mg/kg)</b>                                  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Chlordane  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Endrin   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |
| Methyl parathion   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                            |                            |                            |                            |                            |                            |                              |                              |                              |                            |  |

Notes are included on Page 20.

**Table F-2  
Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-98<br>4 - 5<br>8/6/1999 | SS1<br>0 - 0.5<br>6/5/2000 | SS2<br>0 - 0.5<br>6/5/2000 | SSIA11-1<br>0 - 1<br>7/19/1999 | SSIA11-1<br>1 - 2<br>7/19/1999 | SSIA11-1<br>2 - 3<br>7/19/1999 | SSIA11-10<br>0 - 1<br>8/4/1999 | SSIA11-10<br>1 - 2<br>8/4/1999 | SSIA11-10<br>3 - 4<br>8/4/1999 | SSIA11-11<br>0 - 1<br>8/14/1999 | SSIA11-11<br>1 - 2<br>8/14/1999 | SSIA11-11<br>2 - 3<br>8/14/1999 | SSIA11-11<br>3 - 4<br>8/14/1999 | SSIA11-11<br>4 - 5<br>8/14/1999 | SSIA11-14<br>1 - 2<br>8/6/1999 | SSIA11-14<br>2 - 3<br>8/6/1999 | SSIA11-14<br>3 - 4<br>8/6/1999 | SSIA11-14<br>4 - 5<br>8/6/1999 | SSIA11-15<br>0 - 1<br>8/6/1999 |
|--|----------------------------|----------------------------|----------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>Metals (mg/kg)</b>                                      |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Antimony   |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Arsenic  |                            | 30                         | 46                         |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Barium   |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Cadmium  |                            | 1                          | 4.6                        |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Chromium   |                            | 114                        | 107                        |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Cobalt   |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Copper   |                            | 114                        | 344                        |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Iron   |                            | 22000                      | 16000                      |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Lead   |                            | 59                         | 197                        |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Mercury  |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Molybdenum   |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Nickel   |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Selenium   |                            | <10                        | <10                        |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Silver   |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Thallium   |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Zinc   |                            | 160                        | 267                        |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Arsenic  | <10                        | 34                         | 30                         | 170                            | 33                             | <10                            | 160                            | 23                             | 10                             | 65                              | 42                              | 17                              | <10                             | 11                              | 17                             | 23                             | 13                             | 17                             | 51                             |
| Cadmium  | <10                        | <10                        | <10                        | 50                             | 16                             | <10                            | 12                             | <10                            | <10                            | 22                              | <10                             | <10                             | <10                             | <10                             | 13                             | <10                            | <10                            | <10                            | <10                            |
| Chromium   | <80                        | 140                        | 120                        | 160                            | <80                            | <80                            | <80                            | <80                            | <80                            | 100                             | <80                             | <80                             | <80                             | <80                             | <80                            | <80                            | <80                            | <80                            | <80                            |
| Copper   | 89                         | 100                        | 440                        | 2900                           | 740                            | 330                            | 980                            | 140                            | <20                            | 640                             | 270                             | <20                             | 40                              | <20                             | 52                             | 29                             | <20                            | 14                             | 210                            |
| Iron   | 10000                      | 21000                      | 19000                      | 34000                          | 17000                          | 17000                          | 44000                          | 21000                          | 19000                          | 34000                           | 32000                           | 27000                           | 19000                           | 26000                           | 20000                          | 27000                          | 25000                          | 26000                          | 29000                          |
| Lead   | <10                        | 71                         | 220                        | 1500                           | 520                            | 290                            | 730                            | 150                            | <10                            | 450                             | 180                             | 11                              | <10                             | <10                             | <10                            | <10                            | <10                            | <10                            | 130                            |
| Selenium   | 11                         | <10                        | <10                        | <10                            | <10                            | <10                            | 21                             | 19                             | <10                            | <10                             | <10                             | <10                             | <10                             | <10                             | <10                            | <10                            | <10                            | <10                            | 22                             |
| Zinc   | 120                        | 120                        | 250                        | 1400                           | 340                            | 150                            | 2200                           | 110                            | 45                             | 740                             | 510                             | 58                              | 12                              | 54                              | 41                             | 30                             | 43                             | 37                             | 420                            |
| <b>VOCs (mg/kg)</b>  |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| 1,1,1-Trichloroethane                                      |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| 1,1,2-Trichloroethane                                      |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| 1,2-Dichlorobenzene  |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| 4-Methyl-2-pentanone (MIBK)                                |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Acetone  |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Carbon tetrachloride                                       |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Chlorobenzene  |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Cyclohexane  |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Dichlorodifluoromethane                                    |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Ethyl acetate  |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Ethyl ether  |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Ethylbenzene   |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Methylene chloride   |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Tetrachloroethene  |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Total Xylenes  |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Trichloroethene  |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Trichlorofluoromethane                                     |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| <b>SVOCs (mg/kg)</b>                                       |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Hexachlorocyclopentadiene                                  |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| <b>Pesticides (mg/kg)</b>                                  |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Chlordane  |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Endrin   |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |
| Methyl parathion   |                            |                            |                            |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |

Notes are included on Page 20.

**Table F-2  
Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SSIA11-15<br>1 - 2<br>8/6/1999 | SSIA11-15<br>2 - 3<br>8/6/1999 | SSIA11-15<br>3 - 4<br>8/6/1999 | SSIA11-15<br>4 - 5<br>8/6/1999 | SSIA11-16<br>1 - 2<br>8/6/1999 | SSIA11-16<br>2 - 3<br>8/6/1999 | SSIA11-16<br>3 - 4<br>8/6/1999 | SSIA11-16<br>4 - 5<br>8/6/1999 | SSIA11-17<br>0 - 1<br>11/4/1999 | SSIA11-18<br>0 - 1<br>11/5/1999 | SSIA11-18<br>1 - 2<br>11/5/1999 | SSIA11-18<br>2 - 3<br>11/5/1999 | SSIA11-2<br>0 - 1<br>7/19/1999 | SSIA11-2<br>1 - 2<br>7/19/1999 | SSIA11-6<br>0 - 1<br>7/20/1999 | SSIA11-6<br>1 - 2<br>7/20/1999 | SSIA11-6<br>2 - 3<br>7/20/1999 | SSIA11-6<br>3 - 4<br>7/20/1999 | SSIA11-6<br>4 - 5<br>7/20/1999 |
|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Antimony   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Arsenic  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Barium   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Cadmium  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Chromium   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Cobalt   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Copper   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Iron   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Lead   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Mercury  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Molybdenum   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Nickel   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Selenium   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Silver   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Thallium   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Zinc   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Arsenic  | 30                             | 44                             | 84                             | 13                             | 21                             | 19                             | 20                             | <10                            | 110                             | 150                             | 230                             | 140                             | 82                             | 12                             | 480                            | 920                            | 4400                           | 7300                           | 14000                          |
| Cadmium  | <10                            | <10                            | 14                             | <10                            | <10                            | <10                            | <10                            | <10                            | 15                              | 45                              | 86                              | 61                              | 25                             | <10                            | 120                            | 380                            | 350                            | 620                            | 1400                           |
| Chromium   | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                             | <80                             | <80                             | <80                             | <80                            | <80                            | <80                            | 290                            | 180                            | <80                            | 170                            |
| Copper   | 300                            | 350                            | 480                            | 64                             | 63                             | <20                            | 33                             | <20                            | 1000                            | 1600                            | 3000                            | 1700                            | 1500                           | 170                            | 3600                           | 5800                           | 18000                          | 48000                          | 37000                          |
| Iron   | 31000                          | 43000                          | 26000                          | 20000                          | 21000                          | 22000                          | 25000                          | 19000                          | 31000                           | 36000                           | 34000                           | 28000                           | 25000                          | 19000                          | 29000                          | 28000                          | 35000                          | 42000                          | 38000                          |
| Lead   | 380                            | 950                            | 430                            | 35                             | 34                             | <10                            | <10                            | <10                            | 920                             | 1100                            | 2200                            | 1300                            | 1100                           | 150                            | 2000                           | 12000                          | 2100                           | 3100                           | 21000                          |
| Selenium   | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                             | <10                             | 17                              | <10                             | <10                            | <10                            | <10                            | 29                             | <10                            | <10                            | 110                            |
| Zinc   | 1000                           | 1600                           | 1500                           | 73                             | 21                             | 32                             | 19                             | 15                             | 810                             | 1100                            | 1600                            | 990                             | 770                            | 110                            | 1200                           | 4100                           | 4100                           | 10000                          | 14000                          |
| <b>VOCs (mg/kg)</b>  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| 1,1,1-Trichloroethane                                      |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| 1,1,2-Trichloroethane                                      |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| 1,2-Dichlorobenzene  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| 4-Methyl-2-pentanone (MIBK)                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Acetone  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Carbon tetrachloride                                       |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Chlorobenzene  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Cyclohexane  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Dichlorodifluoromethane                                    |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Ethyl acetate  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Ethyl ether  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Ethylbenzene   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Methylene chloride   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Tetrachloroethene  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Total Xylenes  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Trichloroethene  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Trichlorofluoromethane                                     |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| <b>SVOCs (mg/kg)</b>                                       |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Hexachlorocyclopentadiene                                  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| <b>Pesticides (mg/kg)</b>                                  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Chlordane  |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Endrin   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |
| Methyl parathion   |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                                 |                                 |                                |                                |                                |                                |                                |                                |                                |

Notes are included on Page 20.

**Table F-2**  
**Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | E140-1<br>0 - 0.5<br>7/30/2012 | E140-10<br>0 - 0.5<br>7/30/2012 | E140-11<br>0 - 0.5<br>7/30/2012 | E140-11<br>0.5 - 1<br>7/30/2012 | E140-12<br>0 - 0.5<br>7/31/2012 | E140-12<br>0 - 0.5<br>7/31/2012 | E140-13<br>0 - 0.5<br>7/31/2012 | E140-14<br>0 - 0.5<br>7/31/2012 | E140-15<br>0 - 0.5<br>7/30/2012 | E140-16<br>0 - 0.5<br>8/7/2012 | E140-17<br>0 - 0.5<br>7/30/2012 | E140-18<br>0 - 0.5<br>8/7/2012 | E140-19<br>0 - 0.5<br>7/30/2012 | E140-2<br>0 - 0.5<br>7/30/2012 | E140-20<br>0 - 0.5<br>8/7/2012 | E140-21<br>0 - 0.5<br>7/31/2012 | E140-21<br>0.5 - 1<br>8/7/2012 | E140-22<br>0 - 0.5<br>7/30/2012 | E140-23<br>0 - 0.5<br>7/30/2012 |
|--|--------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------|--------------------------------|---------------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Antimony   | <0.269                         | 0.984 J                         | 1.41 J                          | 2.21 J                          | 0.871 J                         | 0.738                           | 1.33 J                          | <0.257                          | <0.274                          | 1.44 J                         | 1.44 J                          | 0.902 J                        | 0.841 J                         | 1.24 J                         | 0.787 J                        | 2.22                            | <0.228                         | 1.48 J                          | 0.784 J                         |
| Arsenic  | 1.19 J                         | 3.91                            | 29.9                            | 22.5                            | 14.5                            | 16.9                            | 17.5                            | 2.28                            | 2.32                            | 17.2                           | 15.6                            | 3.54                           | 6.46                            | 17                             | 4.86                           | 41.9                            | 3.84                           | 15                              | 3.67                            |
| Barium   | 93.9                           | 85.5                            | 115                             | 95                              | 124                             | 126                             | 65.8                            | 109                             | 143                             | 76.5                           | 267                             | 111                            | 59.6                            | 135                            | 77.7                           | 230                             | 78.7                           | 168                             | 78.1                            |
| Cadmium  | 0.348 J                        | 1.89                            | 6.07                            | 2.95                            | 2.83                            | 2.27                            | 7.55                            | 0.51                            | 0.586                           | 2.49                           | 1.67                            | 1.79                           | 1.04                            | 4.29                           | 1.64                           | 11.8                            | 0.434                          | 5.21                            | 0.792                           |
| Chromium   | 3.93                           | <2.95 UJ                        | 5.13                            | 4.08                            | 6.33                            | 6.05                            | 4.64                            | 5.11                            | 4.12                            | 7.21                           | 3.56                            | 4.33                           | 5.03                            | 5.99                           | 4.46                           | 6.49                            | 3.22                           | 4.59                            | 4.13                            |
| Cobalt   | 2.25                           | 1.72                            | 2.77                            | 2.28                            | 3.52                            | 3.46                            | 2.9                             | 2.98                            | 2.48                            | 3.75                           | 2.31                            | 2.24                           | 3.45                            | 3.36                           | 2.69                           | 7.95                            | 4.18                           | 2.54                            | 2.39                            |
| Copper   | 10.3                           | 42.4                            | 194                             | 93.4                            | 82.8 J                          | 36.3 J                          | 254                             | 16.8                            | 16.9                            | 107                            | 47.5                            | 16                             | 19.3                            | 172                            | 29.9                           | 589                             | 15.2                           | 58.8                            | 20                              |
| Iron   | 4290                           | 4330                            | 5210                            | 3980 J                          | 7380                            | 7170                            | 5230                            | 5980                            | 5170                            | 7900                           | 3170                            | 4580                           | 5630                            | 6040                           | 5490                           | 11400                           | 8730                           | 5170                            | 4280                            |
| Lead   | 7.37                           | 49.4                            | 191                             | 89                              | 61.1                            | 66.7                            | 206                             | 13.2                            | 14.8                            | 86.5                           | 43.9                            | 17.6                           | 36.4                            | 135                            | 42.7                           | 299                             | 4.76                           | 116                             | 18.4                            |
| Mercury  | 0.0431 J                       | <0.0147                         | 0.179                           | 0.146 J                         | 0.0804 J                        | 0.0864 J                        | 0.117 J                         | <0.0169                         | <0.0131                         | 0.138 J                        | <0.0145                         | <0.016                         | 0.0416 J                        | 0.0856 J                       | 0.0263 J                       | 0.279                           | 0.244                          | 0.286                           | <0.0145                         |
| Molybdenum   | 0.193 J                        | 0.369 J                         | 1.34 J                          | 0.755 J                         | 0.321 J                         | 0.925 J                         | 2.91                            | 0.275 J                         | 0.253 J                         | 0.573 J                        | 0.378 J                         | 0.366 J                        | 0.688 J                         | 1.08 J                         | 0.513 J                        | 20.7                            | 0.322 J                        | 0.825 J                         | 0.528 J                         |
| Nickel   | <3.19 UJ                       | <2.68 UJ                        | 5.19                            | 4.21                            | 6.5                             | 6.03                            | 4.94                            | 3.69                            | 2.87                            | 5.86                           | <4.51 UJ                        | 3.73                           | 5.82                            | 5.77                           | 3.12                           | 9.11                            | 5.23                           | <4.77 UJ                        | <3.34 UJ                        |
| Selenium   | <0.199                         | 0.666 J                         | 1                               | 1.34                            | 0.419 J                         | 0.966                           | 0.571 J                         | 0.191 J                         | <0.203                          | 0.68 J                         | 1.83                            | 0.855 J                        | 0.433 J                         | 1.04                           | 0.254 J                        | 1.26                            | <0.169                         | 2.14                            | 0.716 J                         |
| Silver   | 0.16 J                         | 0.118 J                         | 1.07                            | 0.594                           | 0.225 J                         | 0.3 J                           | 1.07                            | <0.106                          | <0.113                          | 0.484 J                        | <0.115                          | <0.104                         | <0.0868                         | 0.859                          | <0.102                         | 2.07                            | <0.0938                        | 0.698                           | <0.0912                         |
| Thallium   |                                |                                 |                                 |                                 |                                 | <0.064                          |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Zinc   | 19.5                           | 53.2                            | 164                             | 77.3                            | 58.9 J                          | 82.6 J                          | 221                             | 32.6                            | 23.7                            | 66.4                           | 44.4                            | 38.7                           | 28.7                            | 130                            | 47.8                           | 925                             | 35.6                           | 64.8                            | 31.4                            |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Arsenic  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Cadmium  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Chromium   |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Copper   |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Iron   |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Lead   |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Selenium   |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Zinc   |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| <b>VOCs (mg/kg)</b>  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| 1,1,1-Trichloroethane                                      |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| 1,1,2-Trichloroethane                                      |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| 1,2-Dichlorobenzene  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| 4-Methyl-2-pentanone (MIBK)                                |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Acetone  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Carbon tetrachloride                                       |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Chlorobenzene  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Cyclohexane  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Dichlorodifluoromethane                                    |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Ethyl acetate  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Ethyl ether  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Ethylbenzene   |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Methylene chloride   |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Tetrachloroethene  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Total Xylenes  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Trichloroethene  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Trichlorofluoromethane                                     |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| <b>SVOCs (mg/kg)</b>                                       |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Hexachlorocyclopentadiene                                  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| <b>Pesticides (mg/kg)</b>                                  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Chlordane  |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Endrin   |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |
| Methyl parathion   |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                |                                 |                                |                                 |                                |                                |                                 |                                |                                 |                                 |

Notes are included on Page 20.

**Table F-2  
Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | E140-24<br>0 - 0.5<br>8/7/2012 | E140-24<br>0.5 - 1<br>8/1/2012 | E140-25<br>0 - 0.5<br>7/31/2012 | E140-26<br>0 - 0.5<br>7/31/2012 | E140-27<br>0 - 0.5<br>7/31/2012 | E140-28<br>0 - 0.5<br>8/7/2012 | E140-28<br>0.5 - 1<br>7/31/2012 | E140-29<br>0 - 0.5<br>7/31/2012 | E140-29<br>0.5 - 1<br>8/7/2012 | E140-3<br>0 - 0.5<br>7/30/2012 | E140-30<br>0 - 0.5<br>8/7/2012 | E140-30<br>0.5 - 1<br>7/31/2012 | E140-31<br>0 - 0.5<br>7/31/2012 | E140-32<br>0 - 0.5<br>7/31/2012 | E140-34<br>0 - 0.5<br>8/1/2012 | E140-35<br>0 - 0.5<br>7/31/2012 | E140-35<br>0.5 - 1<br>7/31/2012 | E140-36<br>0 - 0.5<br>7/31/2012 | E140-4<br>0 - 0.5<br>7/30/2012 |  |
|--|--------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Antimony   | 4.53 J                         | 2.35                           | <0.284                          | 1.34 J                          | 0.313 J                         | 19.3 J                         | 7.8                             | 6.91                            | 6.65                           | 0.544 J                        | 5.3 J                          | 2.57                            | 0.361 J                         | 0.444 J                         | 1.74 J                         | 80.8 J                          | 1.05 J                          | 70.1 J                          | <0.225                         |  |
| Arsenic  | 44.5                           | 35.3                           | 5.36                            | 23.9                            | 6.33                            | 152                            | 49.6                            | 105                             | 48.7                           | 7.78                           | 29                             | 30.9                            | 8.82                            | 16.1                            | 19.9                           | 193                             | 7.74                            | 59.5                            | 4.23                           |  |
| Barium   | 140                            | 160                            | 74.4                            | 88.9                            | 67.8                            | 143                            | 105                             | 173                             | 130                            | 81.9                           | 104                            | 144                             | 109                             | 128                             | 97.8                           | <0.182                          | 102                             | <0.168                          | 164                            |  |
| Cadmium  | 10.2                           | 0.878                          | 0.414 J                         | 5.08                            | 0.465 J                         | 51.5                           | 8.64                            | 17.7                            | 8                              | 2.03                           | 6.61                           | 0.704                           | 2.43                            | 0.638                           | 2.43                           | 127                             | 1.29                            | 58.7                            | 0.295 J                        |  |
| Chromium   | 7.44                           | 7.69                           | 3.91                            | 5.32                            | 2.79                            | 12.2                           | 10.3                            | 10.3                            | 7.65                           | 5.65                           | 8.14                           | 5.92                            | 1.99                            | 4.4                             | 4.43                           | 28.2                            | 3.97                            | <0.119                          | 4.47                           |  |
| Cobalt   | 4.72                           | 3.53                           | 4.73                            | 4.24                            | 3.85                            | 14.2                           | 7                               | 25.9                            | 12.7                           | 3.29                           | 5.69                           | 2.88                            | 3.49                            | 4.58                            | 2.91                           | <0.027                          | 3.83                            | 54.4                            | 2.63                           |  |
| Copper   | 362                            | 12                             | 5.96                            | 278                             | 8.63                            | 1610                           | 419                             | 1940                            | 844                            | 70.4                           | 510                            | 8.95                            | 58.9                            | 22.6                            | 122                            | 6.42                            | 73.9                            | 3.37                            | 8.27                           |  |
| Iron   | 8640                           | 7890                           | 7410                            | 7410                            | 5750                            | 18200                          | 12300                           | 33700                           | 16700                          | 6300                           | 11500                          | 7290                            | 7100                            | 6850                            | 5800                           | <11.4                           | 6630 J                          | <10.5                           | 5280                           |  |
| Lead   | 301                            | 10.9                           | 4.02                            | 148                             | 5.87                            | 1280                           | 234                             | 487                             | 233                            | 61.3                           | 188                            | 6.16                            | 59.4                            | 14.5                            | 55.7                           | 2090                            | 25.1                            | 1320                            | 4.4                            |  |
| Mercury  | 0.19                           | 0.0194 R                       | <0.0139                         | 0.136 J                         | <0.0138                         | 1.1 J                          | 0.231 R                         | 0.372                           | 0.243                          | 0.0729 J                       | 0.137 J                        | 0.0225 R                        | <0.0124                         | <0.0141                         | 0.163 J                        | 0.0181 J                        | <0.0137 UJ                      | 0.54                            | <0.0175                        |  |
| Molybdenum   | 7.68                           | 0.163 J                        | <0.133                          | 4.86                            | <0.14                           | 59.1                           | 26                              | 113                             | 45.9                           | 0.218 J                        | 15                             | 0.283 J                         | 0.281 J                         | <0.1                            | 1.52 J                         | 28.8                            | 3.91                            | 21.7                            | <0.106                         |  |
| Nickel   | 7.17                           | 5.7                            | 4.82                            | 5.61                            | 3.82                            | 15.5                           | 8.6                             | 18.1                            | 10.9                           | 4.32                           | 7.93                           | 4.7                             | 3.04                            | 4.56                            | 4.4                            | 52.3                            | 4.16                            | <0.111                          | 2.89                           |  |
| Selenium   | 1.38                           | 0.893 J                        | <0.21                           | 0.685 J                         | <0.222                          | 3.97                           | 1.38                            | 1.96                            | 1.67                           | <0.173                         | 1.34                           | 0.555 J                         | <0.18                           | 0.309 J                         | 1.17                           | 84.3                            | 0.613 J                         | 38.2                            | <0.167                         |  |
| Silver   | 1.63 J                         | <0.11                          | <0.117                          | 0.984                           | <0.124                          | 8.48 J                         | 1.71                            | 4.94                            | 2.53                           | 0.237 J                        | 2.03 J                         | <0.111                          | <0.0999                         | <0.0884                         | 0.319 J                        | <0.106                          | <0.108                          | <0.098                          | <0.0929                        |  |
| Thallium   |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Zinc   | 310                            | 22                             | 29.2                            | 231                             | 27                              | 1580                           | 523                             | 3550                            | 1180                           | 57.4                           | 361                            | 19.7                            | 66.6                            | 47.7 J                          | 85.7                           | <0.55                           | 143                             | 5860 J                          | 14.4                           |  |
| <b>Metals (mg/kg)<sup>1</sup></b>                          |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Arsenic  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Cadmium  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Chromium   |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Copper   |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Iron   |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Lead   |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Selenium   |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Zinc   |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| <b>VOCs (mg/kg)</b>  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| 1,1,1-Trichloroethane                                      |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| 1,1,2-Trichloroethane                                      |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| 1,2-Dichlorobenzene  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| 4-Methyl-2-pentanone (MIBK)                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Acetone  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Carbon tetrachloride                                       |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Chlorobenzene  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Cyclohexane  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Dichlorodifluoromethane                                    |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Ethyl acetate  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Ethyl ether  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Ethylbenzene   |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Methylene chloride   |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Tetrachloroethene  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Total Xylenes  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Trichloroethene  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Trichlorofluoromethane                                     |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| <b>SVOCs (mg/kg)</b>                                       |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Hexachlorocyclopentadiene                                  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| <b>Pesticides (mg/kg)</b>                                  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Chlordane  |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Endrin   |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |
| Methyl parathion   |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                |                                |                                |                                 |                                 |                                 |                                |                                 |                                 |                                 |                                |  |

Notes are included on Page 20.

**Table F-2**  
**Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| <b>Sample Location:<br/>Sample Depth (ft bgs):<br/>Sample Date:</b> | <b>E140-40<br/>0 - 0.5<br/>8/7/2012</b> | <b>E140-40<br/>0.5 - 1<br/>7/31/2012</b> | <b>E140-5<br/>0 - 0.5<br/>7/30/2012</b> | <b>E140-6<br/>0 - 0.5<br/>7/30/2012</b> | <b>E140-7<br/>0 - 0.5<br/>7/30/2012</b> | <b>E140-7<br/>0 - 0.5<br/>7/30/2012</b> | <b>E140-8<br/>0 - 0.5<br/>7/30/2012</b> | <b>E140-9<br/>0 - 0.5<br/>7/30/2012</b> | <b>E140-9<br/>0.5 - 1<br/>7/30/2012</b> | <b>E140-TP1<br/>3 - 3.5<br/>8/6/2012</b> | <b>E140-TP10<br/>3 - 3.5<br/>8/6/2012</b> | <b>E140-TP11<br/>3 - 3.5<br/>8/6/2012</b> | <b>E140-TP12<br/>7 - 7.5<br/>8/6/2012</b> | <b>E140-TP12<br/>7 - 7.5<br/>8/6/2012</b> | <b>E140-TP13<br/>7.5 - 8<br/>8/6/2012</b> | <b>E140-TP14<br/>10 - 10.5<br/>8/6/2012</b> | <b>E140-TP15<br/>7.5 - 8<br/>8/6/2012</b> | <b>E140-TP2<br/>11 - 11.5<br/>8/6/2012</b> | <b>E140-TP3<br/>4.5 - 5<br/>8/6/2012</b> |  |
|---|---|--|---|---|---|---|---|---|---|--|---|---|---|---|---|---|---|--|--|--|
| <b>Metals (mg/kg)</b>   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Antimony  | 2.12 J                                  | 1.32 J                                   | 1.18 J                                  | <0.266                                  | 1.28 J                                  | 1.18 J                                  | 1.23 J                                  | 2.65                                    | 2.4 J                                   | 1.27 J                                   | 1.05 J                                    | 0.915 J                                   | 1.18 J                                    | 0.986 J                                   | 0.498 J                                   | 0.929 J                                     | 0.64 J                                    | 0.655 J                                    | 0.73 J                                   |  |
| Arsenic   | 27.9                                    | 34.1                                     | 15                                      | 1.43 J                                  | 15.3                                    | 13.4                                    | 16.2                                    | 37.4                                    | 28.7                                    | 41.2                                     | 8.77                                      | 9.69                                      | 12.6 J                                    | 8.95 J                                    | 5.65                                      | 8.36  | 5.64                                      | 11   | 4.69                                     |  |
| Barium  | 103                                     | 131                                      | 127                                     | 92.3                                    | 124                                     | 123                                     | 140                                     | 301                                     | 131                                     | 144                                      | 89.1                                      | 67.2                                      | 52.8                                      | 65.6                                      | 43.2                                      | 83.9  | 42  | 64.6                                       | 302                                      |  |
| Cadmium   | 4.29                                    | 1.39                                     | 4                                       | 0.279 J                                 | 3.38 J                                  | 2.36 J                                  | 0.918                                   | 14                                      | 9.88                                    | 7.75                                     | 3.01                                      | 2.57                                      | 3.34                                      | 2.71                                      | 1.48                                      | 0.474 J                                     | 1.4                                       | 4.78                                       | 1.21                                     |  |
| Chromium  | 2.76                                    | 4.31                                     | 5.63                                    | 2.95                                    | 4.95                                    | 4.68                                    | 5.03                                    | 5.46                                    | 6.06                                    | 7.28                                     | 4.89                                      | 3.39                                      | 3.26                                      | 3.23                                      | 3   | 4.9   | 3.42                                      | 6.61                                       | 6.52                                     |  |
| Cobalt  | 4.3                                     | 5.05                                     | 3.11                                    | 1.74                                    | 2.76                                    | 2.5                                     | 2.51                                    | 3.38                                    | 3.06                                    | 6.46                                     | 2.87                                      | 2.52                                      | 3.33                                      | 2.79                                      | 2.47                                      | 3.19  | 2.31                                      | 6.61                                       | 4.39                                     |  |
| Copper  | 144                                     | 14.7                                     | 220                                     | 9.66                                    | 120 J                                   | 78.1 J                                  | 38.6                                    | 279                                     | 215                                     | 281                                      | 68.1                                      | 77.3                                      | 83.3 J                                    | 56.7 J                                    | 37.5                                      | 16.9  | 33.1                                      | 137  | 22.6                                     |  |
| Iron  | 10200                                   | 13000                                    | 5850                                    | 3690                                    | 5050                                    | 4670                                    | 4930                                    | 4320                                    | 5100 J                                  | 8610                                     | 5630                                      | 5490                                      | 8610                                      | 7190                                      | 5950                                      | 6990  | 5330                                      | 7990                                       | 6950                                     |  |
| Lead  | 194                                     | 88.5                                     | 141                                     | 5.12                                    | 92.2 J                                  | 58.1 J                                  | 18.5                                    | 398                                     | 261                                     | 195                                      | 60.7                                      | 57.8                                      | 86.4                                      | 84.9                                      | 32.9                                      | 10.7  | 60.3                                      | 99.4                                       | 8.45                                     |  |
| Mercury   | 0.211                                   | 0.315 R                                  | 0.156 J                                 | <0.0137                                 | 0.0871 J                                | 0.0806 J                                | 0.0716 J                                | 0.237                                   | 0.197 J                                 | 0.184 J                                  | 0.0337 J                                  | 0.0737 J                                  | <0.0129                                   | <0.0141                                   | 0.0247 J                                  | <0.0153                                     | <0.0122                                   | 0.112 J                                    | <0.0143                                  |  |
| Molybdenum  | 1.94 J                                  | 0.409 J                                  | 0.704 J                                 | 0.136 J                                 | 1.26 J                                  | 0.526 J                                 | 0.119 J                                 | 2.2                                     | 2.7                                     | 6.08                                     | 1.14 J                                    | 0.373 J                                   | 6.4                                       | 5.98                                      | 0.394 J                                   | 0.214 J                                     | 2.35                                      | 1.21 J                                     | 0.934 J                                  |  |
| Nickel  | 4.02                                    | 4.51                                     | 6.13                                    | 2.59                                    | 5.4                                     | 5.05                                    | 5.27                                    | 5.37                                    | 4.87                                    | 8.34                                     | 3.59                                      | 3.17                                      | 4.01                                      | 3.04                                      | 2.57                                      | 4.38  | 2.8                                       | 7.34                                       | 6.94                                     |  |
| Selenium  | <0.193                                  | 0.35 J                                   | 0.74 J                                  | <0.197                                  | 0.739 J                                 | 1.04                                    | 0.983                                   | 1.38                                    | 1.13                                    | <1.8 UJ                                  | 0.511 J                                   | 1.39                                      | 1.34                                      | 1.37                                      | 0.31 J                                    | 0.493 J                                     | 0.189 J                                   | <1.83 UJ                                   | <0.86 UJ                                 |  |
| Silver  | 1.48 J                                  | 0.614                                    | 0.965                                   | <0.11                                   | 0.545                                   | 0.203 J                                 | <0.0979                                 | 1.7                                     | 1.08                                    | 1.16                                     | <0.113                                    | 0.137 J                                   | <0.108                                    | <0.108                                    | <0.11                                     | 0.319 J                                     | <0.102                                    | 0.526                                      | <0.111                                   |  |
| Thallium  |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Zinc  | 119                                     | 47.6                                     | 132                                     | 15.6                                    | 109 J                                   | 64.4 J                                  | 24.2                                    | 417                                     | 285                                     | 920                                      | 62.4                                      | 56  | 132 J                                     | 54.3 J                                    | 39  | 26.2  | 46  | 322  | 58.7                                     |  |
| <b>Metals (mg/kg)<sup>1</sup></b>                                   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Arsenic   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Cadmium   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Chromium  |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Copper  |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Iron  |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Lead  |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Selenium  |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Zinc  |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| <b>VOCs (mg/kg)</b>   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| 1,1,1-Trichloroethane   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                               |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| 1,1,2-Trichloroethane   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| 1,2-Dichlorobenzene   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| 4-Methyl-2-pentanone (MIBK)   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Acetone   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Carbon tetrachloride  |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Chlorobenzene   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Cyclohexane   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Dichlorodifluoromethane   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Ethyl acetate   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Ethyl ether   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Ethylbenzene  |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Methylene chloride  |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Tetrachloroethene   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Total Xylenes   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Trichloroethene   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Trichlorofluoromethane  |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| <b>SVOCs (mg/kg)</b>  |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Hexachlorocyclopentadiene   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| <b>Pesticides (mg/kg)</b>   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Chlordane   |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Endrin  |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |
| Methyl parathion  |   |  |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |  |  |  |

Notes are included on Page 20.



**Table F-2**  
**Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | E140-TP4<br>3 - 3.5<br>8/6/2012 | E140-TP5<br>3 - 3.5<br>8/6/2012 | E140-TP6<br>10 - 10.5<br>8/6/2012 | E140-TP7<br>3.5 - 4<br>8/6/2012 | E140-TP8<br>2.5 - 3<br>8/6/2012 | E140-TP8<br>2.5 - 3<br>8/6/2012 | E140-TP9<br>5.5 - 6<br>8/6/2012 | SB10<br>0 - 0.5<br>12/17/2007 | SB10<br>10 - 11<br>12/17/2007 | SB10<br>15 - 16<br>12/17/2007 | SB10<br>2 - 2<br>12/17/2007 | SB10<br>20 - 21<br>12/17/2007 | SB10<br>25 - 26<br>12/17/2007 | SB10<br>29 - 30<br>12/17/2007 | SB10<br>5 - 6<br>12/17/2007 | SB11<br>0 - 0.5<br>12/18/2007 | SB11<br>10 - 11<br>12/18/2007 | SB11<br>15 - 16<br>12/18/2007 | SB11<br>2 - 2<br>12/18/2007 |
|--|---------------------------------|---------------------------------|-----------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|
| <b>Metals (mg/kg)</b>                                      |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Antimony   | <0.259                          | 0.379 J                         | <0.244                            | 1.53 J                          | 0.496 J                         | 0.343 J                         | 1.58 J                          |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Arsenic  | 3.13                            | 3.47                            | 6.42                              | 6.02                            | 4.34                            | 4.38                            | 10.1                            | 734                           | 6630                          | 1250                          | 1560                        | 5380                          | 4660                          | 10.3                          | 1310                        | 1210                          | 4450                          | 220                           | 910                         |
| Barium   | 37.7                            | 138                             | 87.3                              | 56.2                            | 160 J                           | 92.6 J                          | 85.3                            |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Cadmium  | 0.462 J                         | 0.391 J                         | 0.458                             | 0.707                           | 0.405 J                         | 0.393 J                         | 1.98                            | 425                           | 1620                          | 250                           | 79.2                        | 840                           | 733                           | 0.638                         | 350                         | 317                           | 410                           | 40.7                          | 335                         |
| Chromium   | 3.81                            | 5.6                             | 5.99                              | 4.02                            | 7.15                            | 7.59                            | 5.46                            | 8.25                          | 34.8                          | 21.5                          | 4.37                        | 39.2                          | 43.7                          | 10.6                          | 13                          | 12.4                          | 18.1                          | 12.2                          | 25.3                        |
| Cobalt   | 5.9                             | 4.23                            | 5.25                              | 2.43                            | 4.17                            | 4.40                            | 3.73                            |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Copper   | 5.3                             | 5.5                             | 10.2                              | 18.8                            | 6.44                            | 6.31                            | 62.9                            | 2100                          | 25300                         | 11300                         | 4280                        | 25900                         | 23000                         | 21                            | 6970                        | 5210                          | 26800                         | 830                           | 4150                        |
| Iron   | 6680                            | 8890                            | 11900                             | 4790                            | 9140                            | 9280                            | 6240                            | 13700                         | 26400                         | 19200                         | 12000                       | 44500                         | 42900                         | 12600                         | 32900                       | 11200                         | 15100                         | 12600                         | 45200                       |
| Lead   | 3.4                             | 4.45                            | 5.09                              | 13                              | 4.89                            | 5.67                            | 41.7                            | 6190                          | 17600                         | 5110                          | 2140                        | 15600                         | 13600                         | 15.7                          | 7280                        | 5580                          | 74100                         | 2040                          | 4960                        |
| Mercury  | <0.0166                         | <0.015                          | 0.039 J                           | <0.0165                         | <0.0176                         | 0.000721 J                      | 0.0454 J                        |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Molybdenum   | 8.89                            | 1.14 J                          | 0.475 J                           | 2.75                            | 1.87 J                          | 1.69 J                          | 3.17                            |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Nickel   | 7.33                            | 6.22                            | 8.01                              | 5.24                            | 6.62                            | 7.04                            | 4.73                            |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Selenium   | 2.97                            | <0.208                          | 0.273 J                           | 1.53                            | 0.831 J                         | 1.09                            | 2.79                            | 33.7                          | 70.2                          | 31.6                          | <2                          | 57                            | 44.5                          | <2                            | <2                          | 34.4                          | 210                           | 24.2                          | 3.15                        |
| Silver   | <0.107                          | <0.115                          | <0.1                              | <0.108                          | <0.115                          | <0.11                           | 0.144 J                         |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Thallium   |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Zinc   | 26.7                            | 27.4                            | 31.3                              | 35.3                            | 23.2                            | 22.8                            | 93.9                            | 820                           | 7890                          | 4120                          | 680                         | 12200                         | 7470                          | 39.3                          | 6450                        | 2410                          | 5850                          | 705                           | 18300                       |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Arsenic  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Cadmium  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Chromium   |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Copper   |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Iron   |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Lead   |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Selenium   |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Zinc   |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| <b>VOCs (mg/kg)</b>  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| 1,1,1-Trichloroethane                                      |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| 1,1,2-Trichloroethane                                      |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| 1,2-Dichlorobenzene  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| 4-Methyl-2-pentanone (MIBK)                                |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Acetone  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Carbon tetrachloride                                       |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Chlorobenzene  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Cyclohexane  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Dichlorodifluoromethane                                    |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Ethyl acetate  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Ethyl ether  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Ethylbenzene   |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Methylene chloride   |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Tetrachloroethene  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Total Xylenes  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Trichloroethene  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Trichlorofluoromethane                                     |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| <b>SVOCs (mg/kg)</b>                                       |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Hexachlorocyclopentadiene                                  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| <b>Pesticides (mg/kg)</b>                                  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Chlordane  |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Endrin   |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |
| Methyl parathion   |                                 |                                 |                                   |                                 |                                 |                                 |                                 |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |

Notes are included on Page 20.

**Table F-2**  
**Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SB11<br>20 - 21<br>12/18/2007 | SB11<br>25 - 26<br>12/18/2007 | SB11<br>29 - 30<br>12/18/2007 | SB11<br>5 - 6<br>12/18/2007 | SB13<br>10 - 11<br>12/18/2007 | SB13<br>15 - 16<br>12/18/2007 | SB13<br>20 - 21<br>12/18/2007 | SB13<br>25 - 26<br>12/18/2007 | SB13<br>29 - 30<br>12/18/2007 | SB14<br>0 - 0.5<br>12/18/2007 | SB14<br>10 - 11<br>12/18/2007 | SB14<br>15 - 16<br>12/18/2007 | SB14<br>2 - 2<br>12/18/2007 | SB14<br>20 - 21<br>12/18/2007 | SB14<br>25 - 26<br>12/18/2007 | SB14<br>29 - 30<br>12/18/2007 | SB14<br>5 - 6<br>12/18/2007 | SB15<br>15 - 16<br>12/18/2007 | SB15<br>20 - 21<br>12/18/2007 |
|--|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Antimony   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Arsenic  | 35.5                          | <2                            | <2                            | 142                         | 89.1                          | 110                           | 215                           | 1660                          | 15.7                          | 29.6                          | 730                           | 710                           | 21.6                        | 1410                          | 1370                          | <2                            | 440                         | 223                           | 560                           |
| Barium   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Cadmium  | 5.69                          | 0.35                          | 0.602                         | 195                         | 21.8                          | 21.6                          | 5.21                          | 116                           | 1.83                          | 6.37                          | 305                           | 154                           | 5.24                        | 297                           | 247                           | 0.518                         | 235                         | 388                           | 280                           |
| Chromium   | 11.7                          | 10.1                          | 5.83                          | 10.5                        | 9.26                          | 9.91                          | 7.26                          | 16.2                          | 7.12                          | 4.33                          | 7.01                          | 10.8                          | 3.08                        | 12.7                          | 27.9                          | 8.81                          | 7.73                        | 26.7                          | 68.4                          |
| Cobalt   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Copper   | 131                           | 9.74                          | 7.13                          | 1030                        | 570                           | 540                           | 136                           | 1500                          | 18.1                          | 353                           | 2880                          | 2970                          | 185                         | 2400                          | 3820                          | 8.96                          | 2570                        | 997                           | 4850                          |
| Iron   | 12600                         | 11200                         | 12500                         | 12000                       | 9110                          | 8960                          | 7780                          | 11300                         | 12400                         | 9380                          | 8360                          | 8360                          | 9350                        | 15100                         | 45300                         | 10000                         | 8310                        | 4690                          | 150000                        |
| Lead   | 236                           | 11.5                          | <1                            | 1050                        | 730                           | 790                           | 148                           | 2420                          | 23.7                          | 185                           | 4260                          | 2780                          | 122                         | 3600                          | 7070                          | 12.4                          | 3040                        | 970                           | 2790                          |
| Mercury  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Molybdenum   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Nickel   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Selenium   | <2                            | <2                            | <2                            | <2                          | <2                            | <2                            | <2                            | 13.1                          | <2                            | <2                            | 8.46                          | 6.17                          | <2                          | 12.3                          | 56.9                          | <2                            | 3.76                        | 7.08                          | <2                            |
| Silver   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Thallium   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Zinc   | 117                           | 34.4                          | 39                            | 1350                        | 540                           | 865                           | 144                           | 1520                          | 47                            | 362                           | 1700                          | 1490                          | 175                         | 2660                          | 5290                          | 30.5                          | 2040                        | 1580                          | 18900                         |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Arsenic  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Cadmium  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Chromium   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Copper   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Iron   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Lead   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Selenium   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Zinc   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| <b>VOCs (mg/kg)</b>  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| 1,1,1-Trichloroethane                                      |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| 1,1,2-Trichloroethane                                      |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| 1,2-Dichlorobenzene  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Acetone  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Carbon tetrachloride                                       |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Chlorobenzene  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Cyclohexane  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Dichlorodifluoromethane                                    |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Ethyl acetate  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Ethyl ether  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Ethylbenzene   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Methylene chloride   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Tetrachloroethene  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Total Xylenes  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Trichloroethene  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Trichlorofluoromethane                                     |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| <b>SVOCs (mg/kg)</b>                                       |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Hexachlorocyclopentadiene                                  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| <b>Pesticides (mg/kg)</b>                                  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Chlordane  |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Endrin   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |
| Methyl parathion   |                               |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |

Notes are included on Page 20.

**Table F-2**  
**Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SB15<br>25 - 26<br>12/18/2007 | SB15<br>29 - 30<br>12/18/2007 | SB16<br>0 - 0.5<br>12/18/2007 | SB16<br>10 - 11<br>12/18/2007 | SB16<br>15 - 16<br>12/18/2007 | SB16<br>2 - 2<br>12/18/2007 | SB16<br>20 - 21<br>12/18/2007 | SB16<br>25 - 26<br>12/18/2007 | SB16<br>29 - 30<br>12/18/2007 | SB16<br>5 - 6<br>12/18/2007 | SB17<br>0 - 0.5<br>12/18/2007 | SB17<br>10 - 11<br>12/18/2007 | SB17<br>15 - 16<br>12/18/2007 | SB17<br>2 - 2<br>12/18/2007 | SB17<br>20 - 21<br>12/18/2007 | SB17<br>25 - 26<br>12/18/2007 | SB17<br>5 - 6<br>12/18/2007 | SB18<br>0 - 0.5<br>12/19/2007 | SB18<br>10 - 11<br>12/19/2007 |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Antimony   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Arsenic  | 157                           | 2.75                          | 440                           | 93.8                          | 3810                          | 1960                        | 46.2                          | 330                           | 3                             | 1490                        | 7550                          | 4270                          | 15600                         | 3400                        | 13.1                          | 9.85                          | 4480                        | 176                           | 680                           |
| Barium   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Cadmium  | 29                            | 0.831                         | 129                           | 18.2                          | 660                           | 3500                        | 24.5                          | 140                           | 0.448                         | 167                         | 820                           | 184                           | 166                           | 1260                        | 0.465                         | 0.861                         | 480                         | 28.2                          | 172                           |
| Chromium   | 87                            | 9.61                          | 17.3                          | 9.43                          | 168                           | 12.1                        | 7.15                          | 41.1                          | 7.47                          | 19.8                        | 174                           | 16.5                          | 19.5                          | 110                         | 11.5                          | 10.6                          | 17.9                        | 4.31                          | 11.5                          |
| Cobalt   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Copper   | 3670                          | 20.8                          | 3240                          | 560                           | 3510                          | 19600                       | 470                           | 1030                          | 13.8                          | 6340                        | 20300                         | 16500                         | 9960                          | 10900                       | 16.2                          | 16.3                          | 5540                        | 765                           | 5960                          |
| Iron   | 197000                        | 10500                         | 11600                         | 10300                         | 273000                        | 23500                       | 7530                          | 26400                         | 8580                          | 30100                       | 23500                         | 13000                         | 17800                         | 19200                       | 12200                         | 11600                         | 18100                       | 13400                         | 15500                         |
| Lead   | 267                           | 16.4                          | 4860                          | 910                           | 2880                          | 10700                       | 437                           | 1070                          | 10.1                          | 31900                       | 13900                         | 7960                          | 4580                          | 33700                       | 20.1                          | 29                            | 15000                       | 610                           | 6290                          |
| Mercury  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Molybdenum   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Nickel   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Selenium   | <2                            | <2                            | 8.86                          | <2                            | 62.6                          | 139                         | <2                            | 7.97                          | <2                            | 7.61                        | 25.9                          | 49.6                          | 50.6                          | 110                         | <2                            | <2                            | 51.4                        | <2                            | 15.3                          |
| Silver   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Thallium   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Zinc   | 19800                         | 70.1                          | 1980                          | 1220                          | 3120                          | 2780                        | 630                           | 1530                          | 63                            | 7750                        | 6440                          | 6110                          | 4270                          | 8400                        | 44.1                          | 39.6                          | 5490                        | 480                           | 2720                          |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Arsenic  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Cadmium  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Chromium   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Copper   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Iron   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Lead   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Selenium   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Zinc   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| <b>VOCs (mg/kg)</b>  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| 1,1,1-Trichloroethane                                      |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| 1,1,2-Trichloroethane                                      |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| 1,2-Dichlorobenzene  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Acetone  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Carbon tetrachloride                                       |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Chlorobenzene  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Cyclohexane  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Dichlorodifluoromethane                                    |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Ethyl acetate  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Ethyl ether  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Ethylbenzene   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Methylene chloride   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Tetrachloroethene  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Total Xylenes  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Trichloroethene  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Trichlorofluoromethane                                     |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| <b>SVOCs (mg/kg)</b>                                       |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Hexachlorocyclopentadiene                                  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| <b>Pesticides (mg/kg)</b>                                  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Chlordane  |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Endrin   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |
| Methyl parathion   |                               |                               |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                               |                               |

Notes are included on Page 20.

**Table F-2**  
**Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SB18<br>15 - 16<br>12/19/2007 | SB18<br>2 - 2<br>12/19/2007 | SB18<br>20 - 21<br>12/19/2007 | SB18<br>25 - 26<br>12/19/2007 | SB18<br>29 - 30<br>12/19/2007 | SB18<br>5 - 6<br>12/19/2007 | SB19<br>0 - 0.5<br>12/19/2007 | SB19<br>10 - 11<br>12/19/2007 | SB19<br>15 - 16<br>12/19/2007 | SB19<br>2 - 2<br>12/19/2007 | SB19<br>20 - 21<br>12/19/2007 | SB19<br>25 - 26<br>12/19/2007 | SB19<br>29 - 30<br>12/19/2007 | SB19<br>5 - 6<br>12/19/2007 | SB20<br>0 - 0.5<br>12/19/2007 | SB20<br>10 - 11<br>12/19/2007 | SB20<br>15 - 16<br>12/19/2007 | SB20<br>2 - 2<br>12/19/2007 | SB20<br>20 - 21<br>12/19/2007 |
|--|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Antimony   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Arsenic  | 4240                          | 1070                        | 580                           | 169                           | 68.2                          | 360                         | 5200                          | 980                           | 730                           | 1630                        | 246                           | 88.4                          | 3.48                          | 840                         | 169                           | 2520                          | 104                           | 1180                        | 2.9                           |
| Barium   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Cadmium  | 378                           | 176                         | 175                           | 32.9                          | 16.2                          | 287                         | 780                           | 96.5                          | 413                           | 350                         | 116                           | 26.7                          | 0.376                         | 150                         | 43.4                          | 165                           | 13.2                          | 240                         | 0.332                         |
| Chromium   | 16.6                          | 4.91                        | 12.4                          | 51.5                          | 48.7                          | 18                          | 26.2                          | 16.2                          | 21.1                          | 15.6                        | 54.8                          | 62.1                          | 7.65                          | 5.56                        | 5.82                          | 10.5                          | 6.02                          | 13.1                        | 9.82                          |
| Cobalt   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Copper   | 14800                         | 2930                        | 2160                          | 2900                          | 2600                          | 5120                        | 13100                         | 7220                          | 2960                          | 6620                        | 3060                          | 2500                          | 9.4                           | 3430                        | 930                           | 4450                          | 1130                          | 7380                        | 12.6                          |
| Iron   | 17200                         | 12800                       | 21000                         | 154000                        | 161000                        | 24000                       | 19100                         | 17900                         | 50300                         | 15400                       | 148000                        | 156000                        | 9410                          | 7330                        | 8970                          | 7040                          | 6200                          | 13600                       | 10700                         |
| Lead   | 17100                         | 3190                        | 4160                          | 720                           | 180                           | 3290                        | 16000                         | 5750                          | 8430                          | 11300                       | 2560                          | 430                           | 10.7                          | 4330                        | 1160                          | 6300                          | 330                           | 6350                        | 14.4                          |
| Mercury  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Molybdenum   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Nickel   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Selenium   | 42.2                          | 9.09                        | 3.82                          | <2                            | <2                            | <2                          | 33.3                          | 6.28                          | 16.1                          | 14.6                        | <2                            | <2                            | <2                            | <2                          | <2                            | 38.1                          | <2                            | 6.09                        | <2                            |
| Silver   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Thallium   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Zinc   | 5290                          | 1230                        | 4840                          | 13300                         | 12200                         | 5100                        | 8360                          | 3480                          | 9570                          | 3730                        | 12600                         | 11800                         | 44                            | 1630                        | 680                           | 3160                          | 950                           | 3010                        | 39                            |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Arsenic  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Cadmium  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Chromium   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Copper   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Iron   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Lead   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Selenium   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Zinc   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| <b>VOCs (mg/kg)</b>  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| 1,1,1-Trichloroethane                                      |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| 1,1,2-Trichloroethane                                      |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| 1,2-Dichlorobenzene  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Acetone  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Carbon tetrachloride                                       |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Chlorobenzene  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Cyclohexane  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Dichlorodifluoromethane                                    |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Ethyl acetate  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Ethyl ether  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Ethylbenzene   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Methylene chloride   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Tetrachloroethene  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Total Xylenes  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Trichloroethene  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Trichlorofluoromethane                                     |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| <b>SVOCs (mg/kg)</b>                                       |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Hexachlorocyclopentadiene                                  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| <b>Pesticides (mg/kg)</b>                                  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Chlordane  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Endrin   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |
| Methyl parathion   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |

Notes are included on Page 20.

**Table F-2**  
**Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SB20<br>25 - 26<br>12/19/2007 | SB20<br>5 - 6<br>12/19/2007 | SB21<br>0 - 0.5<br>12/19/2007 | SB21<br>10 - 11<br>12/19/2007 | SB21<br>15 - 16<br>12/19/2007 | SB21<br>2 - 2<br>12/19/2007 | SB21<br>20 - 21<br>12/19/2007 | SB21<br>25 - 26<br>12/19/2007 | SB21<br>29 - 30<br>12/19/2007 | SB21<br>5 - 6<br>12/19/2007 | SB22<br>0 - 0.5<br>12/19/2007 | SB22<br>10 - 11<br>12/19/2007 | SB22<br>15 - 16<br>12/19/2007 | SB22<br>2 - 2<br>12/19/2007 | SB22<br>20 - 21<br>12/19/2007 | SB22<br>25 - 26<br>12/19/2007 | SB22<br>5 - 6<br>12/19/2007 | SB9<br>10 - 11<br>12/17/2007 | SB9<br>15 - 16<br>12/17/2007 |
|--|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|------------------------------|------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Antimony   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Arsenic  | 3.57                          | 10900                       | 162                           | 540                           | 315                           | 336                         | 1950                          | 1550                          | 1480                          | 189                         | 108                           | 34.7                          | <2                            | 194                         | 21.3                          | <2                            | 430                         | 2800                         | 835                          |
| Barium   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Cadmium  | 0.353                         | 330                         | 32.2                          | 97.7                          | 82.4                          | 67.2                        | 185                           | 157                           | 175                           | 19.8                        | 19.2                          | 3.07                          | 0.837                         | 41.2                        | 4.07                          | <0.2                          | 248                         | 120                          | 38.1                         |
| Chromium   | 8.28                          | 17                          | 3.32                          | 9.32                          | 33                            | 4.25                        | 23.5                          | 20.2                          | 31.5                          | 21                          | 4.2                           | 7.81                          | 8.79                          | 5.87                        | 7.73                          | 2.73                          | 13.5                        | 48.1                         | 29                           |
| Cobalt   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Copper   | 10.3                          | 37700                       | 720                           | 4300                          | 1580                          | 2180                        | 11600                         | 8020                          | 6630                          | 830                         | 510                           | 48.8                          | 11.4                          | 1030                        | 53.3                          | 1.96                          | 3650                        | 4050                         | 1400                         |
| Iron   | 10600                         | 13200                       | 11900                         | 12600                         | 6900                          | 12700                       | 23400                         | 17200                         | 15500                         | 22000                       | 11800                         | 6000                          | 9760                          | 6940                        | 6850                          | 3830                          | 18200                       | 29000                        | 15800                        |
| Lead   | 10.8                          | 31300                       | 800                           | 3100                          | 1910                          | 1710                        | 6840                          | 6220                          | 5700                          | 440                         | 424                           | 58                            | 20.6                          | 1300                        | 94.6                          | 4.92                          | 4340                        | 2630                         | 758                          |
| Mercury  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Molybdenum   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Nickel   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Selenium   | <2                            | 163                         | <2                            | <2                            | <2                            | 7.9                         | 9.42                          | 12.7                          | 11.9                          | <2                          | <2                            | <2                            | <2                            | <2                          | <2                            | <2                            | 10.3                        | 48.1                         | 16.6                         |
| Silver   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Thallium   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Zinc   | 39.7                          | 5790                        | 425                           | 1500                          | 810                           | 822                         | 3120                          | 2830                          | 2420                          | 950                         | 255                           | 43.5                          | 30.8                          | 530                         | 48.8                          | 9.57                          | 3420                        | 6040                         | 1760                         |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Arsenic  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Cadmium  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Chromium   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Copper   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Iron   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Lead   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Selenium   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Zinc   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| <b>VOCs (mg/kg)</b>  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| 1,1,1-Trichloroethane                                      |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| 1,1,2-Trichloroethane                                      |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| 1,2-Dichlorobenzene  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Acetone  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Carbon tetrachloride                                       |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Chlorobenzene  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Cyclohexane  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Dichlorodifluoromethane                                    |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Ethyl acetate  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Ethyl ether  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Ethylbenzene   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Methylene chloride   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Tetrachloroethene  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Total Xylenes  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Trichloroethene  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Trichlorofluoromethane                                     |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| <b>SVOCs (mg/kg)</b>                                       |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Hexachlorocyclopentadiene                                  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| <b>Pesticides (mg/kg)</b>                                  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Chlordane  |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Endrin   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |
| Methyl parathion   |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                               |                             |                               |                               |                             |                              |                              |

Notes are included on Page 20.

**Table F-2  
Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site**

| <b>Sample Location:<br/>Sample Depth (ft bgs):<br/>Sample Date:</b> | <b>SB9<br/>20 - 21<br/>12/17/2007</b> | <b>SB9<br/>25 - 26<br/>12/17/2007</b> | <b>SB9<br/>29 - 30<br/>12/17/2007</b> | <b>SS-VOC1-1<br/>0 - 0.5<br/>9/29/2011</b> | <b>SS-VOC1-2<br/>0 - 0.5<br/>9/29/2011</b> | <b>SS-VOC1-3<br/>0 - 0.5<br/>9/29/2011</b> | <b>SS-VOC2-1<br/>0 - 0.5<br/>9/29/2011</b> | <b>SS-VOC2-2<br/>0 - 0.5<br/>9/29/2011</b> | <b>SS-VOC3-1<br/>0 - 0.5<br/>9/29/2011</b> | <b>SS-VOC3-2<br/>0 - 0.5<br/>9/29/2011</b> | <b>SS-VOC3-3<br/>0 - 0.5<br/>9/29/2011</b> | <b>SS-VOC4-1<br/>0 - 0.5<br/>9/29/2011</b> | <b>SS-VOC4-2<br/>0 - 0.5<br/>9/29/2011</b> | <b>SS-VOC4-3<br/>0 - 0.5<br/>9/29/2011</b> | <b>SS-VOC4-4<br/>0 - 0.5<br/>9/29/2011</b> |
|---|---------------------------------------|---------------------------------------|---------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| <b>Metals (mg/kg)</b>   |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Antimony  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Arsenic   | 11.9                                  | <2                                    | <2                                    |  |  |  |  |  |  |  |  |  |  |  |  |
| Barium  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Cadmium   | 0.596                                 | <0.2                                  | 0.442                                 |  |  |  |  |  |  |  |  |  |  |  |  |
| Chromium  | 11.6                                  | 9.7                                   | 10                                    |  |  |  |  |  |  |  |  |  |  |  |  |
| Cobalt  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Copper  | 22.1                                  | 10.3                                  | 8.57                                  |  |  |  |  |  |  |  |  |  |  |  |  |
| Iron  | 11800                                 | 9890                                  | 11000                                 |  |  |  |  |  |  |  |  |  |  |  |  |
| Lead  | 15.2                                  | 10.8                                  | 7.9                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Mercury   |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Molybdenum  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Nickel  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Selenium  | <2                                    | <2                                    | <2                                    |  |  |  |  |  |  |  |  |  |  |  |  |
| Silver  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Thallium  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Zinc  | 50.9                                  | 30.5                                  | 30.2                                  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                                  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Arsenic   |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Cadmium   |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Chromium  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Copper  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Iron  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Lead  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Selenium  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Zinc  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>VOCs (mg/kg)</b>   |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,1,1-Trichloroethane   |                                       |                                       |                                       | <0.000729 UJ                               | <0.000687 UJ                               | <0.000736 UJ                               | <0.000711 UJ                               | <0.000803 UJ                               | <0.000752 UJ                               | <0.000943 UJ                               | <0.000766 UJ                               | <0.000807 UJ                               | <0.000668 UJ                               | <0.00069 UJ                                | <0.000918 UJ                               |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                               |                                       |                                       |                                       | <0.000698 UJ                               | <0.000658 UJ                               | <0.000704 UJ                               | <0.00068 UJ                                | <0.000768 UJ                               | <0.00072 UJ                                | <0.000903 UJ                               | <0.000733 UJ                               | <0.000773 UJ                               | <0.000639 UJ                               | <0.00066 UJ                                | <0.000879 UJ                               |
| 1,1,2-Trichloroethane   |                                       |                                       |                                       | <0.000521 UJ                               | <0.000491 UJ                               | <0.000525 UJ                               | <0.000508 UJ                               | <0.000573 UJ                               | <0.000537 UJ                               | <0.000674 UJ                               | <0.000547 UJ                               | <0.000577 UJ                               | <0.000477 UJ                               | <0.000493 UJ                               | <0.000656 UJ                               |
| 1,2-Dichlorobenzene   |                                       |                                       |                                       | <0.00026 UJ                                | 0.000269 J                                 | 0.000344 J                                 | <0.000254 UJ                               | <0.000287 UJ                               | <0.000269 UJ                               | <0.000337 UJ                               | <0.000274 UJ                               | <0.000288 UJ                               | <0.000238 UJ                               | <0.000246 UJ                               | <0.000328 UJ                               |
| 4-Methyl-2-pentanone (MIBK)   |                                       |                                       |                                       | <0.000969 UJ                               | <0.000913 UJ                               | <0.000977 UJ                               | <0.000944 UJ                               | <0.00107 UJ                                | <0.000999 UJ                               | <0.00125 UJ                                | <0.00102 UJ                                | <0.00107 UJ                                | <0.000887 UJ                               | <0.000916 UJ                               | <0.00122 UJ                                |
| Acetone   |                                       |                                       |                                       | 0.0104 J                                   | <0.00707 UJ                                | 0.0239 J                                   | 0.00746 J                                  | 0.0149 J                                   | 0.0172 J                                   | 0.0156 J                                   | 0.00922 J                                  | <0.0083 UJ                                 | <0.00687 UJ                                | 0.0102 J                                   | <0.00945 UJ                                |
| Carbon tetrachloride  |                                       |                                       |                                       | <0.000531 UJ                               | <0.000501 UJ                               | <0.000536 UJ                               | <0.000518 UJ                               | <0.000585 UJ                               | <0.000548 UJ                               | <0.000687 UJ                               | <0.000558 UJ                               | <0.000588 UJ                               | <0.000486 UJ                               | <0.000502 UJ                               | <0.000669 UJ                               |
| Chlorobenzene   |                                       |                                       |                                       | <0.00024 UJ                                | <0.000226 UJ                               | <0.000242 UJ                               | <0.000233 UJ                               | <0.000264 UJ                               | <0.000247 UJ                               | <0.00031 UJ                                | <0.000252 UJ                               | <0.000265 UJ                               | <0.000219 UJ                               | <0.000227 UJ                               | <0.000302 UJ                               |
| Cyclohexane   |                                       |                                       |                                       | <0.00103 UJ                                | <0.000972 UJ                               | <0.00104 UJ                                | <0.001 UJ                                  | <0.00114 UJ                                | <0.00106 UJ                                | <0.00133 UJ                                | <0.00108 UJ                                | <0.00114 UJ                                | <0.000944 UJ                               | <0.000975 UJ                               | <0.0013 UJ                                 |
| Dichlorodifluoromethane   |                                       |                                       |                                       | <0.00076 UJ                                | <0.000716 UJ                               | <0.000767 UJ                               | <0.000741 UJ                               | <0.000837 UJ                               | <0.000784 UJ                               | <0.000984 UJ                               | <0.000799 UJ                               | <0.000842 UJ                               | <0.000696 UJ                               | <0.000719 UJ                               | <0.000958 UJ                               |
| Ethyl acetate   |                                       |                                       |                                       | <0.00125 UJ                                | <0.00118 UJ                                | <0.00126 UJ                                | <0.00122 UJ                                | <0.00138 UJ                                | <0.00129 UJ                                | <0.00162 UJ                                | <0.00131 UJ                                | <0.00138 UJ                                | <0.00114 UJ                                | <0.00118 UJ                                | <0.00157 UJ                                |
| Ethyl ether   |                                       |                                       |                                       | <0.000177 UJ                               | <0.000167 UJ                               | <0.000179 UJ                               | <0.000173 UJ                               | <0.000195 UJ                               | <0.000183 UJ                               | <0.000229 UJ                               | <0.000186 UJ                               | <0.000196 UJ                               | <0.000162 UJ                               | <0.000167 UJ                               | <0.000223 UJ                               |
| Ethylbenzene  |                                       |                                       |                                       | <0.000229 UJ                               | <0.000216 UJ                               | 0.000263 J                                 | <0.000223 UJ                               | <0.000252 UJ                               | <0.000236 UJ                               | <0.000296 UJ                               | <0.000241 UJ                               | <0.000254 UJ                               | <0.00021 UJ                                | 0.000225 J                                 | 0.000301 J                                 |
| Methylene chloride  |                                       |                                       |                                       | <0.00521 UJ                                | <0.00491 UJ                                | <0.00525 UJ                                | <0.00508 UJ                                | <0.00573 UJ                                | <0.00537 UJ                                | <0.00674 UJ                                | <0.00547 UJ                                | <0.00577 UJ                                | <0.00477 UJ                                | <0.00493 UJ                                | <0.00656 UJ                                |
| Tetrachloroethene   |                                       |                                       |                                       | <0.000771 UJ                               | <0.000726 UJ                               | <0.000778 UJ                               | <0.000751 UJ                               | <0.000849 UJ                               | <0.000795 UJ                               | <0.000997 UJ                               | <0.00081 UJ                                | <0.000854 UJ                               | <0.000706 UJ                               | <0.000729 UJ                               | <0.000971 UJ                               |
| Total Xylenes   |                                       |                                       |                                       | 0.000596 J                                 | 0.000568 J                                 | 0.00103 J                                  | 0.000408 J                                 | 0.000817 J                                 | 0.000475 J                                 | 0.000646 J                                 | 0.00079 J                                  | <0.000415 UJ                               | <0.000343 UJ                               | 0.00086 J                                  | 0.00114 J                                  |
| Trichloroethene   |                                       |                                       |                                       | <0.000292 UJ                               | <0.000275 UJ                               | <0.000294 UJ                               | <0.000284 UJ                               | <0.000321 UJ                               | <0.000301 UJ                               | <0.000377 UJ                               | <0.000306 UJ                               | <0.000323 UJ                               | <0.000267 UJ                               | <0.000276 UJ                               | <0.000367 UJ                               |
| Trichlorofluoromethane  |                                       |                                       |                                       | 0.000886 J                                 | 0.00103 J                                  | 0.00148 J                                  | 0.000934 J                                 | 0.000827 J                                 | 0.000988 J                                 | 0.00214 J                                  | 0.00167 J                                  | 0.000889 J                                 | <0.000477 UJ                               | 0.000873 J                                 | 0.00311 J                                  |
| <b>SVOCs (mg/kg)</b>  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Hexachlorocyclopentadiene   |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Pesticides (mg/kg)</b>   |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Chlordane   |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Endrin  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |
| Methyl parathion  |                                       |                                       |                                       |  |  |  |  |  |  |  |  |  |  |  |  |

Notes are included on Page 20.

**Table F-2  
Soil Analytical Data - East Property**

**Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SS-VOC4-5<br>0 - 0.5<br>9/29/2011 | SS-VOC4-6<br>0 - 0.5<br>9/29/2011 | SS-VOC4-7<br>0 - 0.5<br>9/29/2011 | SS-VOC4-8<br>0 - 0.5<br>9/29/2011 | SS-VOC4-9<br>0 - 0.5<br>9/29/2011 | WP-SS1A<br>0 - 0.5<br>9/26/2011 | WP-SS1B<br>0 - 0.5<br>9/26/2011 | WP-SS2A<br>0 - 0.5<br>9/26/2011 | WP-SS2B<br>0 - 0.5<br>9/26/2011 | WP-SS3A<br>0 - 0.5<br>9/26/2011 | WP-SS3B<br>0 - 0.5<br>9/26/2011 | WP-SS4A<br>0 - 0.5<br>9/26/2011 | WP-SS4B<br>0 - 0.5<br>9/26/2011 | WP-SS4C<br>0 - 0.5<br>9/26/2011 |
|--|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                   |                                   |                                   |                                   |                                   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Antimony   |                                   |                                   |                                   |                                   |                                   | 214                             | 142                             | 1680                            | 859                             | 34.3                            | 69.9                            | 89.9                            | 308                             | 14.2                            |
| Arsenic  |                                   |                                   |                                   |                                   |                                   | 909                             | 1690                            | 8460                            | 7380                            | 270                             | 703                             | 380                             | 10900                           | 57.8                            |
| Barium   |                                   |                                   |                                   |                                   |                                   | 133                             | 281                             | 253                             | 253                             | 182                             | 171                             | 591                             | 552                             | 560                             |
| Cadmium  |                                   |                                   |                                   |                                   |                                   | 254                             | 111                             | 1340                            | 919                             | 96.1                            | 209                             | 188                             | 720                             | 11.9                            |
| Chromium   |                                   |                                   |                                   |                                   |                                   | 11.7                            | 25.7                            | 15.4                            | 14.8                            | 15.2                            | 10.8                            | 21                              | 86.9                            | 15.8                            |
| Cobalt   |                                   |                                   |                                   |                                   |                                   | 16.6                            | 39.4                            | 44.8                            | 38.9                            | 13.3                            | 13                              | 76.9                            | 68.1                            | 75.4                            |
| Copper   |                                   |                                   |                                   |                                   |                                   | 9700                            | 21100                           | 18500                           | 7540                            | 1650                            | 3260                            | 1580                            | 7040                            | 2130                            |
| Iron   |                                   |                                   |                                   |                                   |                                   | 16900                           | 23300                           | 42700                           | 37400                           | 16800                           | 10900                           | 50900                           | 39300                           | 41400                           |
| Lead   |                                   |                                   |                                   |                                   |                                   | 4740                            | 4720                            | 106000                          | 99400                           | 2150                            | 5150                            | 1930                            | 7530                            | 454                             |
| Mercury  |                                   |                                   |                                   |                                   |                                   | 5.47                            | 3.94                            | 458                             | 318                             | 15.7                            | 18.5                            | 3.29                            | 32.3                            | <0.137 UJ                       |
| Molybdenum   |                                   |                                   |                                   |                                   |                                   | 58.3 J                          | 66.6 J                          | 144 J                           | 81.1 J                          | 29.3 J                          | 16.4 J                          | 277 J                           | 239 J                           | 169 J                           |
| Nickel   |                                   |                                   |                                   |                                   |                                   | 29.4                            | 70.3                            | 87.4                            | 33.7                            | 17                              | 26.4                            | 20.3                            | 39.8                            | 35.4                            |
| Selenium   |                                   |                                   |                                   |                                   |                                   | 22.3                            | 31.6                            | 1880                            | 1310                            | 10.2                            | 20.3                            | 29.4                            | 71.6                            | 8.75                            |
| Silver   |                                   |                                   |                                   |                                   |                                   | 51.3                            | 36.3                            | 122                             | 84.2                            | 15.4                            | 34.2                            | 6.47                            | 26                              | 3.36                            |
| Thallium   |                                   |                                   |                                   |                                   |                                   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Zinc   |                                   |                                   |                                   |                                   |                                   | 3000                            | 10900                           | 15700                           | 17500                           | 2140                            | 2970                            | 11200                           | 19100                           | 6580                            |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                   |                                   |                                   |                                   |                                   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Arsenic  |                                   |                                   |                                   |                                   |                                   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Cadmium  |                                   |                                   |                                   |                                   |                                   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Chromium   |                                   |                                   |                                   |                                   |                                   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Copper   |                                   |                                   |                                   |                                   |                                   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Iron   |                                   |                                   |                                   |                                   |                                   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Lead   |                                   |                                   |                                   |                                   |                                   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Selenium   |                                   |                                   |                                   |                                   |                                   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Zinc   |                                   |                                   |                                   |                                   |                                   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| <b>VOCs (mg/kg)</b>  |                                   |                                   |                                   |                                   |                                   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| 1,1,1-Trichloroethane                                      | <0.000762 UJ                      | <0.000792 UJ                      | <0.000677 UJ                      | <0.000657 UJ                      | <0.000739 UJ                      |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      | <0.00073 UJ                       | <0.000758 UJ                      | <0.000648 UJ                      | <0.000629 UJ                      | <0.000708 UJ                      |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| 1,1,2-Trichloroethane                                      | <0.000544 UJ                      | <0.000566 UJ                      | <0.000484 UJ                      | <0.000469 UJ                      | <0.000528 UJ                      |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| 1,2-Dichlorobenzene  | <0.000272 UJ                      | <0.000283 UJ                      | <0.000242 UJ                      | <0.000235 UJ                      | <0.000264 UJ                      |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| 4-Methyl-2-pentanone (MIBK)                                | <0.00101 UJ                       | <0.00105 UJ                       | <0.000899 UJ                      | <0.000873 UJ                      | <0.000982 UJ                      |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Acetone  | <0.00784 UJ                       | 0.00938 J                         | <0.00696 UJ                       | <0.00676 UJ                       | <0.00761 UJ                       |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Carbon tetrachloride                                       | <0.000555 UJ                      | <0.000577 UJ                      | <0.000493 UJ                      | <0.000479 UJ                      | <0.000539 UJ                      |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Chlorobenzene  | <0.00025 UJ                       | <0.00026 UJ                       | <0.000222 UJ                      | <0.000216 UJ                      | <0.000243 UJ                      |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Cyclohexane  | <0.00108 UJ                       | <0.00112 UJ                       | <0.000957 UJ                      | <0.000929 UJ                      | <0.00105 UJ                       |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Dichlorodifluoromethane                                    | <0.000795 UJ                      | <0.000826 UJ                      | <0.000706 UJ                      | <0.000685 UJ                      | <0.000771 UJ                      |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Ethyl acetate  | <0.00131 UJ                       | <0.00136 UJ                       | <0.00116 UJ                       | <0.00113 UJ                       | <0.00127 UJ                       |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Ethyl ether  | <0.000185 UJ                      | <0.000192 UJ                      | <0.000164 UJ                      | <0.00016 UJ                       | <0.00018 UJ                       |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Ethylbenzene   | <0.00024 UJ                       | <0.000249 UJ                      | <0.000213 UJ                      | <0.000207 UJ                      | <0.000232 UJ                      |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Methylene chloride   | <0.00544 UJ                       | <0.00566 UJ                       | <0.00484 UJ                       | <0.00469 UJ                       | <0.00528 UJ                       |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Tetrachloroethene  | <0.000806 UJ                      | <0.000838 UJ                      | <0.000716 UJ                      | <0.000695 UJ                      | <0.000782 UJ                      |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Total Xylenes  | <0.000392 UJ                      | <0.000407 UJ                      | <0.000348 UJ                      | <0.000338 UJ                      | 0.000405 J                        |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Trichloroethene  | <0.000305 UJ                      | <0.000317 UJ                      | <0.000271 UJ                      | <0.000263 UJ                      | <0.000296 UJ                      |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Trichlorofluoromethane                                     | 0.000774 J                        | 0.00169 J                         | <0.000484 UJ                      | 0.000475 J                        | 0.0015 J                          |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| <b>SVOCs (mg/kg)</b>                                       |                                   |                                   |                                   |                                   |                                   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Hexachlorocyclopentadiene                                  |                                   |                                   |                                   |                                   |                                   | <0.102                          | <0.102                          | <0.101                          | <0.102                          | <0.101                          | <0.101                          | <0.102                          | <0.102                          | <0.101                          |
| <b>Pesticides (mg/kg)</b>                                  |                                   |                                   |                                   |                                   |                                   |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Chlordane  |                                   |                                   |                                   |                                   |                                   | <0.0382                         | <0.0384                         | <0.00951                        | <0.00953                        | <0.0191                         | <0.0095                         | <0.00952                        | <0.0192                         | <0.0019                         |
| Endrin   |                                   |                                   |                                   |                                   |                                   | <0.00169                        | <0.0017                         | 0.000421 J                      | <0.000422                       | <0.000845                       | <0.000421                       | <0.000422                       | <0.00085                        | <0.000084                       |
| Methyl parathion   |                                   |                                   |                                   |                                   |                                   | <0.00858                        | <0.00861                        | <0.0085                         | <0.00847                        | <0.00859                        | <0.00857                        | <0.00852                        | <0.00857                        | <0.00839                        |

**Notes:**

<sup>1</sup> Samples analysed using field x-ray diffraction methods  
ft bgs = sample interval in feet below ground surface  
mg/kg = milligram per kilogram

SU = Standard (pH) Units  
SVOC = Semivolatile Organic Compound  
VOC = Volatile Organic Compound

**Laboratory Qualifiers:**

J = Estimated value reported. In the majority of cases this represents a value less than the contract required quantitation limit, but greater than the method detection limit.  
U = Compound was analyzed for but not detected. The value shown in the laboratory method detection limit.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH12-1<br>0 - 1<br>11/3/1999 | BH12-1<br>10 - 12<br>11/3/1999 | BH12-1<br>15 - 16<br>11/3/1999 | BH12-1<br>3 - 4<br>11/3/1999 | BH12-1<br>4 - 5<br>11/3/1999 | BH12-2<br>10 - 12<br>11/3/1999 | BH12-2<br>6 - 7<br>11/3/1999 | BH12-5<br>8 - 10<br>11/4/1999 | BH12-6<br>12 - 13<br>11/4/1999 | BH12-7<br>10 - 12<br>11/4/1999 | BH12-7<br>6 - 8<br>11/4/1999 | BH12-8<br>2 - 3<br>11/4/1999 | BH12-8<br>3 - 4<br>11/4/1999 | BH12-8<br>4 - 5<br>11/4/1999 | BH12-8<br>8 - 9<br>11/4/1999 | BH12-9<br>4 - 5<br>11/4/1999 | BH2-1<br>63 - 65<br>8/10/1999 | BH2-1<br>68 - 70<br>8/10/1999 | BH2-1<br>73 - 75<br>8/10/1999 | BH2-3<br>40 - 42<br>8/13/1999 | BH2-3<br>45 - 47<br>8/13/1999 | BH2-3<br>50 - 52<br>8/13/1999 | BH2-3<br>55 - 57<br>8/13/1999 |
|--|------------------------------|--------------------------------|--------------------------------|------------------------------|------------------------------|--------------------------------|------------------------------|-------------------------------|--------------------------------|--------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Antimony   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Arsenic  |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Barium   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Cadmium  |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Chromium   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Chromium, hexavalent                                       |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Cobalt   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Copper   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Iron   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Lead   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Manganese  |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Mercury  |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Molybdenum   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Nickel   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Selenium   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Silver   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Thallium   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Zinc   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Arsenic  | 490                          | <10                            | <10                            | <10                          | <10                          | 67                             | <10                          | <10                           | 120                            | 33                             | <10                          | 23                           | <10                          | 25                           | 76                           | 52                           | 19                            | 12                            | 64                            | 27                            | <10                           | <10                           | <10                           |
| Cadmium  | 300                          | <10                            | <10                            | <10                          | <10                          | 10                             | <10                          | 15                            | <10                            | 38                             | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           |
| Chromium   | <80                          | <80                            | <80                            | <80                          | <80                          | <80                            | <80                          | <80                           | <80                            | <80                            | 82                           | <80                          | <80                          | <80                          | 98                           | <80                          | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | 83                            |
| Copper   | 4300                         | <20                            | 27                             | 99                           | 120                          | 570                            | 93                           | 45                            | 37                             | 94                             | 32                           | 64                           | 91                           | 120                          | 48                           | 42                           | 170                           | 26                            | <20                           | 20                            | <20                           | 36                            | <20                           |
| Iron   | 42000                        | 11000                          | 7700                           | 22000                        | 18000                        | 24000                          | 15000                        | 15000                         | 23000                          | 16000                          | 13000                        | 16000                        | 17000                        | 17000                        | 27000                        | 19000                        | 35000                         | 27000                         | 27000                         | 20000                         | 23000                         | 19000                         | 18000                         |
| Lead   | 2700                         | <10                            | <10                            | 140                          | 150                          | 610                            | 130                          | <10                           | 21                             | 52                             | 33                           | 130                          | 120                          | 130                          | <10                          | <10                          | 790                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           |
| Selenium   | 24                           | <10                            | <10                            | <10                          | <10                          | <10                            | <10                          | <10                           | <10                            | 18                             | 12                           | <10                          | <10                          | <10                          | <10                          | <10                          | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           |
| Zinc   | 2700                         | 34                             | <10                            | 88                           | 61                           | 320                            | 77                           | 21                            | 63                             | 350                            | 280                          | 300                          | 180                          | 670                          | 42                           | 19                           | 1300                          | 44                            | 44                            | 15                            | 38                            | 25                            | 23                            |
| <b>VOCs (mg/kg)</b>  |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Benzene  |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Ethylbenzene   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Toluene  |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Total Xylenes  |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| <b>TPH (mg/kg)</b>   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| C6-C12   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Over C12-C28   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Over C28-C35   |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |
| Total Petroleum Hydrocarbons                               |                              |                                |                                |                              |                              |                                |                              |                               |                                |                                |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |                               |                               |                               |

Notes are included on Page 20.



**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH2-3<br>60 - 62<br>8/13/1999 | BH2-3<br>65 - 67<br>8/13/1999 | BH2-3<br>70 - 72<br>8/13/1999 | BH2-3<br>75 - 76<br>8/13/1999 | BH2-4<br>54 - 55<br>8/16/1999 | BH2-5<br>16 - 18<br>8/16/1999 | BH2-5<br>20 - 22<br>8/16/1999 | BH2-5<br>24 - 26<br>8/16/1999 | BH2-6<br>15 - 17<br>8/16/1999 | BH2-6<br>20 - 22<br>8/16/1999 | BH2-6<br>24 - 26<br>8/16/1999 | BH2-6<br>30 - 32<br>8/16/1999 | BH2-6<br>35 - 37<br>8/17/1999 | BH2-6<br>40 - 42<br>8/17/1999 | BH2-6<br>45 - 47<br>8/17/1999 | BH2-6<br>9 - 11<br>8/16/1999 | BH2-7<br>10 - 12<br>8/17/1999 | BH2-7<br>15 - 17<br>8/17/1999 | BH2-7<br>20 - 22<br>8/17/1999 | BH2-7<br>25 - 27<br>8/17/1999 | BH2-7<br>30 - 32<br>8/17/1999 | BH2-7<br>35 - 37<br>8/17/1999 | BH2-7<br>40 - 41<br>8/17/1999 |  |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Antimony   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Arsenic  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Barium   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Cadmium  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Chromium   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Chromium, hexavalent                                       |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Cobalt   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Copper   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Iron   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Lead   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Manganese  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Mercury  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Molybdenum   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Nickel   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Selenium   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Silver   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Thallium   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Zinc   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Arsenic  | 21                            | 36                            | 120                           | 100                           | 170                           | <10                           | <10                           | <10                           | 3700                          | 870                           | 400                           | 170                           | 85                            | 370                           | 47                            | 1100                         | 13                            | <10                           | 11                            | <10                           | 22                            | 11                            | 11                            |  |
| Cadmium  | 14                            | <10                           | 15                            | <10                           | 120                           | <10                           | <10                           | <10                           | 210                           | 1600                          | 630                           | 710                           | 670                           | 1400                          | 58                            | 450                          | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | 14                            |  |
| Chromium   | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                          | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           |  |
| Copper   | <20                           | <20                           | <20                           | 49                            | 37                            | <20                           | 44                            | 40                            | 1300                          | 240                           | <20                           | <20                           | 48                            | 37                            | 23                            | 160                          | <20                           | 29                            | <20                           | <20                           | 45                            | 21                            |                               |  |
| Iron   | 20000                         | 19000                         | 31000                         | 33000                         | 23000                         | 18000                         | 17000                         | 21000                         | 49000                         | 30000                         | 29000                         | 26000                         | 27000                         | 30000                         | 13000                         | 14000                        | 24000                         | 25000                         | 26000                         | 6900                          | 30000                         | 22000                         | 26000                         |  |
| Lead   | <10                           | <10                           | <10                           | 14                            | 59                            | 21                            | 19                            | <10                           | 74                            | 23                            | 15                            | <10                           | <10                           | <10                           | <10                           | 56                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           |  |
| Selenium   | <10                           | <10                           | <10                           | 14                            | 14                            | <10                           | <10                           | <10                           | 26                            | 34                            | <10                           | <10                           | <10                           | <10                           | <10                           | <10                          | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           |  |
| Zinc   | 42                            | 34                            | 79                            | 34                            | 560                           | 54                            | 21                            | 15                            | 130                           | 580                           | 600                           | 810                           | 460                           | 520                           | 120                           | 710                          | 59                            | 34                            | 35                            | 31                            | 47                            | 21                            | 24                            |  |
| <b>VOCs (mg/kg)</b>  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Benzene  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Ethylbenzene   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Toluene  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Total Xylenes  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| <b>TPH (mg/kg)</b>   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| C6-C12   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Over C12-C28   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Over C28-C35   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |
| Total Petroleum Hydrocarbons                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                              |                               |                               |                               |                               |                               |                               |                               |  |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH2-7<br>45 - 46<br>8/17/1999 | BH3-1<br>0 - 1<br>8/18/1999 | BH3-1<br>1 - 2<br>8/18/1999 | BH3-1<br>2 - 3<br>8/18/1999 | BH3-1<br>25 - 27<br>8/23/1999 | BH3-1<br>3 - 4<br>8/18/1999 | BH3-1<br>30 - 32<br>8/23/1999 | BH3-1<br>35 - 37<br>8/23/1999 | BH3-1<br>4 - 5<br>8/18/1999 | BH3-1<br>40 - 42<br>8/23/1999 | BH3-1<br>45 - 47<br>8/23/1999 | BH3-1<br>49 - 51<br>8/23/1999 | BH3-7<br>30 - 32<br>8/26/1999 | BH3-7<br>35 - 37<br>8/26/1999 | BH3-7<br>40 - 42<br>8/26/1999 | BH3-7<br>45 - 47<br>8/26/1999 | BH3-7<br>50 - 52<br>8/26/1999 | BH3-7<br>55 - 57<br>8/26/1999 | BH3-7<br>60 - 62<br>8/26/1999 | BH3-7<br>65 - 67<br>8/26/1999 | BH3-7<br>69 - 70<br>8/27/1999 | EP-108<br>10 - 12<br>10/14/1999 | EP-108<br>15 - 16<br>10/14/1999 |
|--|-------------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---------------------------------|---------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Antimony   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Arsenic  |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Barium   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Cadmium  |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Chromium   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Chromium, hexavalent                                       |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Cobalt   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Copper   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Iron   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Lead   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Manganese  |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Mercury  |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Molybdenum   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Nickel   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Selenium   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Silver   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Thallium   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Zinc   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Arsenic  | <10                           | 300                         | <10                         | 18                          | <10                           | <10                         | 24                            | 22                            | <10                         | 28                            | 19                            | <10                           | <10                           | <10                           | 17                            | 18                            | 15                            | 56                            | <10                           | 50                            | <10                           | 19                              | 82                              |
| Cadmium  | <10                           | 110                         | <10                         | 14                          | <10                           | <10                         | <10                           | <10                           | <10                         | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                             | <10                             |
| Chromium   | <80                           | 110                         | <80                         | <80                         | <80                           | <80                         | <80                           | 88                            | <80                         | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                             | <80                             |
| Copper   | 35                            | 3400                        | 120                         | 150                         | 56                            | <20                         | <120                          | <20                           | 28                          | <20                           | 20                            | <20                           | 32                            | 52                            | 61                            | 66                            | <20                           | 39                            | 45                            | 27                            | <20                           | 68                              | 100                             |
| Iron   | 23000                         | 23000                       | 16000                       | 18000                       | 25000                         | 16000                       | 32000                         | 31000                         | 15000                       | 32000                         | 23000                         | 24000                         | 19000                         | 17000                         | 20000                         | 28000                         | 24000                         | 47000                         | 11000                         | 31000                         | 10000                         | 16000                           | 29000                           |
| Lead   | <10                           | 990                         | 57                          | 340                         | <10                           | 18                          | <10                           | <10                           | <10                         | <10                           | <10                           | 29                            | <10                           | <10                           | <10                           | 38                            | 46                            | <10                           | 41                            | 63                            | 12                            | 41                              | 67                              |
| Selenium   | <10                           | 13                          | <10                         | <10                         | <10                           | <10                         | <10                           | <10                           | <10                         | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                             | <10                             |
| Zinc   | 27                            | 1200                        | 65                          | 320                         | 46                            | 35                          | 30                            | 35                            | 32                          | 26                            | 30                            | 36                            | 47                            | 44                            | 44                            | 49                            | 47                            | 64                            | 35                            | 28                            | <10                           | 35                              | 170                             |
| <b>VOCs (mg/kg)</b>  |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Benzene  |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Ethylbenzene   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Toluene  |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Total Xylenes  |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| <b>TPH (mg/kg)</b>   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| C6-C12   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Over C12-C28   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Over C28-C35   |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |
| Total Petroleum Hydrocarbons                               |                               |                             |                             |                             |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                 |                                 |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-109<br>0 - 1<br>10/15/1999 | EP-109<br>1 - 2<br>10/15/1999 | EP-109<br>10 - 11_5<br>7/28/1999 | EP-109<br>10 - 12<br>10/15/1999 | EP-109<br>15 - 17<br>10/15/1999 | EP-109<br>2 - 3<br>10/15/1999 | EP-109<br>20 - 22<br>10/15/1999 | EP-109<br>3 - 4<br>10/15/1999 | EP-109<br>4 - 5<br>10/15/1999 | EP-109<br>5 - 5_5<br>7/28/1999 | EP-73<br>15 - 15<br>6/1/1997 | EP-73<br>20 - 20<br>6/1/1997 | EP-73<br>32 - 32<br>6/1/1997 | EP-73<br>40 - 40<br>6/1/1997 | EP-73<br>45 - 45<br>6/1/1997 | EP-73<br>78 - 78<br>6/17/1997 | EP-75<br>35 - 35<br>6/2/1997 | EP-75<br>40 - 40<br>6/2/1997 | EP-75<br>45 - 45<br>6/2/1997 | EP-75<br>50 - 50<br>6/2/1997 | EP-75<br>55 - 55<br>6/3/1997 | EP-75<br>60 - 60<br>6/3/1997 | EP-75<br>65 - 65<br>6/3/1997 |
|--|-------------------------------|-------------------------------|----------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|-------------------------------|-------------------------------|--------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Antimony   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Arsenic  |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                | <20                          | <20                          | <20                          | 24                           | <20                          | <20                           | 220                          | 120                          | 67                           | 45                           | 91                           | 73                           | 36                           |
| Barium   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Cadmium  |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                | <10                          | <10                          | <10                          | <10                          | <10                          | <10                           | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          |
| Chromium   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                | 50                           | 110                          | <30                          | <30                          | <30                          | 43                            | 35                           | 53                           | 83                           | 43                           | 130                          | 40                           | <30                          |
| Chromium, hexavalent                                       |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Cobalt   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Copper   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                | 31                           | 400                          | 44                           | <20                          | 30                           | <20                           | 280                          | 64                           | <20                          | 60                           | 450                          | <20                          | 22                           |
| Iron   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                | 28000                        | 58000                        | 9000                         | 21000                        | 20000                        | 11000                         | 32000                        | 29000                        | 33000                        | 22000                        | 31000                        | 23000                        | 21000                        |
| Lead   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                | 160                          | 2400                         | 230                          | 31                           | 140                          | <10                           | 490                          | 120                          | 23                           | 29                           | 760                          | 17                           | 12                           |
| Manganese  |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Mercury  |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Molybdenum   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Nickel   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Selenium   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                | <10                          | <10                          | <10                          | <10                          | <10                          | <10                           | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          |
| Silver   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Thallium   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Zinc   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                | 350                          | 5200                         | 490                          | 33                           | 240                          | 42                            | 5400                         | 1100                         | 77                           | 280                          | 7300                         | 50                           | 100                          |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Arsenic  | 380                           | 320                           | 180                              | 14                              | <10                             | 440                           | <10                             | 680                           | 460                           | 380                            |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Cadmium  | 59                            | 36                            | 18                               | <10                             | <10                             | 25                            | <10                             | 30                            | 32                            | 50                             |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Chromium   | <80                           | <80                           | <80                              | <80                             | <80                             | <80                           | 91                              | 90                            | 94                            | <80                            |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Copper   | 2700                          | 1900                          | 940                              | 230                             | <20                             | 2800                          | <20                             | 3700                          | 3000                          | 2500                           |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Iron   | 77000                         | 88000                         | 23000                            | 21000                           | 19000                           | 110000                        | 15000                           | 140000                        | 110000                        | 89000                          |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Lead   | 2000                          | 1900                          | 660                              | 310                             | 33                              | 3600                          | 43                              | 5000                          | 4000                          | 2900                           |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Selenium   | 13                            | <10                           | <10                              | <10                             | <10                             | <10                           | <10                             | 10                            | 10                            | <10                            |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Zinc   | 4500                          | 5000                          | 360                              | 150                             | 18                              | 8700                          | 33                              | 13000                         | 9700                          | 6400                           |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| <b>VOCs (mg/kg)</b>  |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Benzene  |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Ethylbenzene   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Toluene  |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Total Xylenes  |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| <b>TPH (mg/kg)</b>   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| C6-C12   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Over C12-C28   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Over C28-C35   |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |
| Total Petroleum Hydrocarbons                               |                               |                               |                                  |                                 |                                 |                               |                                 |                               |                               |                                |                              |                              |                              |                              |                              |                               |                              |                              |                              |                              |                              |                              |                              |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-76<br>0 - 0.5<br>6/3/1997 | EP-76<br>1.5 - 1.5<br>6/3/1997 | EP-76<br>4.5 - 4.5<br>6/3/1997 | EP-76<br>5.0 - 5.0<br>6/3/1997 | EP-76<br>5.5 - 5.5<br>6/3/1997 | EP-76<br>6.0 - 6.0<br>6/3/1997 | EP-79<br>10 - 10<br>6/5/1997 | EP-79<br>15 - 15<br>6/5/1997 | EP-79<br>20 - 20<br>6/5/1997 | EP-79<br>25 - 25<br>6/5/1997 | EP-79<br>35 - 35<br>6/5/1997 | EP-79<br>40 - 40<br>6/5/1997 | EP-79<br>45 - 45<br>6/5/1997 | EP-81<br>10 - 10<br>6/6/1997 | EP-81<br>15 - 15<br>6/6/1997 | EP-81<br>20 - 20<br>6/6/1997 | EP-81<br>25 - 25<br>6/6/1997 | EP-81<br>5 - 5<br>6/6/1997 | EP-82<br>0 - 0.5<br>6/10/1997 | EP-82<br>10 - 10<br>6/10/1997 | EP-82<br>15 - 15<br>6/10/1997 | EP-82<br>20 - 20<br>6/10/1997 | EP-82<br>25 - 25<br>6/10/1997 |  |
|--|------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Antimony   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Arsenic  | 1800                         | 420                            | 78                             | 29                             | 110                            | <20                            | <20                          | 32                           | 28                           | 210                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | <20                          | 150                        | <20                           | <20                           | <20                           | <20                           | <20                           |  |
| Barium   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Cadmium  | 420                          | <10                            | <10                            | <10                            | <10                            | <10                            | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | 15                         | <10                           | <10                           | <10                           | <10                           | <10                           |  |
| Chromium   | 200                          | 310                            | 82                             | 52                             | <30                            | 140                            | 45                           | 60                           | 57                           | 95                           | 59                           | 83                           | <30                          | 38                           | <30                          | <30                          | <30                          | 80                         | 70                            | <30                           | 100                           | <30                           | <30                           |  |
| Chromium, hexavalent                                       |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Cobalt   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Copper   | 12000                        | 4800                           | 35                             | <20                            | 500                            | 25                             | <20                          | 86                           | 120                          | 300                          | <20                          | <20                          | <20                          | 190                          | <20                          | <20                          | <20                          | 1100                       | 200                           | 38                            | <20                           | <20                           | <20                           |  |
| Iron   | 120000                       | 150000                         | 20000                          | 18000                          | 29000                          | 19000                          | 24000                        | 28000                        | 34000                        | 47000                        | 16000                        | 9000                         | 5000                         | 22000                        | 18000                        | 17000                        | 18000                        | 40000                      | 18000                         | 12000                         | 8000                          | 11000                         | 12000                         |  |
| Lead   | 9500                         | 3400                           | 28                             | 20                             | 650                            | 37                             | 17                           | 30                           | 110                          | 240                          | <10                          | 12                           | 10                           | 140                          | 14                           | 12                           | 11                           | 790                        | 60                            | <10                           | <10                           | 14                            | 15                            |  |
| Manganese  |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Mercury  |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Molybdenum   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Nickel   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Selenium   | 82                           | 80                             | 14                             | 13                             | 20                             | <10                            | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                        | <10                           | <10                           | <10                           | <10                           | <10                           |  |
| Silver   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Thallium   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Zinc   | 12000                        | 110000                         | 190                            | 80                             | 6600                           | 260                            | 67                           | 180                          | 440                          | 1400                         | 34                           | 20                           | 20                           | 360                          | 46                           | 34                           | 29                           | 2600                       | 150                           | 22                            | 14                            | 50                            | 24                            |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Arsenic  |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Cadmium  |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Chromium   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Copper   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Iron   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Lead   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Selenium   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Zinc   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| <b>VOCs (mg/kg)</b>  |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Benzene  |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Ethylbenzene   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Toluene  |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Total Xylenes  |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| <b>TPH (mg/kg)</b>   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| C6-C12   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Over C12-C28   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Over C28-C35   |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |
| Total Petroleum Hydrocarbons                               |                              |                                |                                |                                |                                |                                |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |                            |                               |                               |                               |                               |                               |  |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-82<br>30 - 30<br>6/10/1997 | EP-82<br>5 - 5<br>6/10/1997 | EP-85<br>10 - 10<br>6/12/1997 | EP-85<br>15 - 15<br>6/12/1997 | EP-85<br>20 - 20<br>6/12/1997 | EP-85<br>5 - 5<br>6/12/1997 | EP-99<br>57 - 59<br>8/12/1999 | EP-99<br>65 - 67<br>8/12/1999 | RI1BH1<br>40 - 40<br>6/19/1997 | RI1BH1<br>45 - 45<br>6/19/1997 | RI1BH1<br>50 - 50<br>6/19/1997 | RI1BH1<br>55 - 55<br>6/19/1997 | RI1BH1<br>60 - 60<br>6/19/1997 | RI1BH1<br>62 - 62<br>6/19/1997 | RI1BH4<br>0 - 1<br>6/30/1997 | RI1BH4<br>10 - 10<br>6/30/1997 | RI1BH4<br>15 - 15<br>6/30/1997 | RI1BH5<br>10 - 10<br>6/30/1997 | RI1BH5<br>12 - 12<br>6/30/1997 | RI1BH5<br>15 - 15<br>6/30/1997 | RI1BH5<br>2 - 2<br>6/30/1997 | RI1BH5<br>8 - 8<br>6/30/1997 | SSIA2-2<br>0 - 1<br>7/14/1997 |
|--|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------|------------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Antimony   |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Arsenic  | <20                           | <20                         | 27                            | 22                            | <20                           | 59                          |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              | 840                           |
| Barium   |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Cadmium  | <10                           | <10                         | <10                           | <10                           | <10                           | <10                         |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              | 150                           |
| Chromium   | <30                           | 70                          | 78                            | 63                            | <30                           | <30                         |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              | 230                           |
| Chromium, hexavalent                                       |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Cobalt   |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Copper   | 38                            | 34                          | <20                           | 41                            | <20                           | 58                          |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              | 8800                          |
| Iron   | 11000                         | 19000                       | 15000                         | 17000                         | 18000                         | 20000                       |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              | 85000                         |
| Lead   | <10                           | 23                          | 15                            | 27                            | 32                            | 150                         |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              | 2700                          |
| Manganese  |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Mercury  |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Molybdenum   |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Nickel   |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Selenium   | <10                           | <10                         | <10                           | <10                           | <10                           | <10                         |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              | 21                            |
| Silver   |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Thallium   |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Zinc   | 15                            | 57                          | 35                            | 26                            | 99                            | 180                         |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              | 5300                          |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Arsenic  |                               |                             |                               |                               |                               |                             | <10                           | <10                           | 4400                           | 1400                           | <20                            | <20                            | 23                             | <20                            | 280                          | 29                             | <20                            | <20                            | 34                             | <20                            | <20                          | <20                          |                               |
| Cadmium  |                               |                             |                               |                               |                               |                             | <10                           | <10                           | 2100                           | 660                            | 11                             | <10                            | <10                            | <10                            | 24                           | <10                            | <10                            | <10                            | <10                            | <10                            | <10                          | <10                          |                               |
| Chromium   |                               |                             |                               |                               |                               |                             | <80                           | <80                           | 190                            | 170                            | 89                             | 92                             | 52                             | 51                             | 120                          | 91                             | <30                            | 32                             | <30                            | 48                             | 46                           | 82                           |                               |
| Copper   |                               |                             |                               |                               |                               |                             | 54                            | <20                           | 4000                           | 1200                           | <20                            | 26                             | 39                             | 130                            | 2100                         | 54                             | 23                             | 25                             | 17                             | <20                            | 310                          | 24                           |                               |
| Iron   |                               |                             |                               |                               |                               |                             | 20000                         | 24000                         | 130000                         | 41000                          | 19000                          | 11000                          | 12000                          | 20000                          | 60000                        | 21000                          | 17000                          | 18000                          | 19000                          | 18000                          | 27000                        | 16000                        |                               |
| Lead   |                               |                             |                               |                               |                               |                             | 45                            | <10                           | 11000                          | 2200                           | 36                             | 67                             | 20                             | 320                            | 970                          | 140                            | 25                             | 30                             | 22                             | 33                             | 210                          | 17                           |                               |
| Selenium   |                               |                             |                               |                               |                               |                             | <10                           | <10                           | 20                             | 13                             | <10                            | <10                            | <10                            | <10                            | <10                          | <10                            | <10                            | <10                            | <10                            | <10                            | <10                          | <10                          |                               |
| Zinc   |                               |                             |                               |                               |                               |                             | 56                            | 43                            | 16000                          | 4200                           | 83                             | 110                            | 64                             | 310                            | 4700                         | 540                            | 27                             | 42                             | 59                             | 54                             | 1600                         | 36                           |                               |
| <b>VOCs (mg/kg)</b>  |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Benzene  |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Ethylbenzene   |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Toluene  |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Total Xylenes  |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| <b>TPH (mg/kg)</b>   |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| C6-C12   |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Over C12-C28   |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Over C28-C35   |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |
| Total Petroleum Hydrocarbons                               |                               |                             |                               |                               |                               |                             |                               |                               |                                |                                |                                |                                |                                |                                |                              |                                |                                |                                |                                |                                |                              |                              |                               |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SSIA2-2<br>3 - 3<br>7/14/1997 | SSIA3-1<br>0 - 1<br>7/14/1997 | SSIA3-1<br>1_5 - 1_5<br>7/14/1997 | SSIA3-2<br>0 - 1<br>7/14/1997 | SSIA3-2<br>1_5 - 1_5<br>7/14/1997 | SSIA3-2<br>3 - 3<br>7/14/1997 | SSIA3-5<br>0 - 1<br>7/15/1997 | SSIA3-5<br>1_5 - 1_5<br>7/15/1997 | BH12-10<br>52 - 53<br>4/3/2001 | BH12-11<br>37 - 38<br>4/3/2001 | BH12-11<br>42 - 43<br>4/3/2001 | BH12-12<br>47 - 48<br>4/3/2001 | BH12-12<br>52 - 53<br>4/3/2001 | BH12-13<br>46 - 47<br>4/4/2001 | BH12-13<br>51 - 52<br>4/4/2001 | BH12-14<br>43 - 44<br>4/4/2001 | BH12-14<br>50 - 51<br>4/4/2001 | BH12-15<br>49 - 50<br>4/4/2001 | BH12-15<br>51 - 52<br>4/4/2001 | BH12-16<br>48 - 49<br>4/4/2001 | BH12-16<br>53 - 54<br>4/4/2001 | BH12-17<br>48 - 49<br>4/5/2001 | BH12-17<br>51 - 52<br>4/5/2001 |
|--|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-----------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Antimony   |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Arsenic  |                               | 1900                          | 650                               | <20                           | 35                                |                               | 1000                          | 560                               |                                |                                |                                |                                |                                |                                |                                |                                |                                | 616                            |                                |                                |                                |                                |                                |
| Barium   |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Cadmium  |                               | 510                           | 120                               | 25                            | 19                                |                               | 280                           | 150                               |                                |                                |                                |                                |                                |                                |                                |                                |                                | 1945                           |                                |                                |                                |                                |                                |
| Chromium   |                               | 240                           | 73                                | <30                           | <30                               |                               | 240                           | 80                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Chromium, hexavalent                                       |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Cobalt   |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Copper   |                               | 27000                         | 4000                              | 360                           | 430                               |                               | 9000                          | 3700                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Iron   |                               | 66000                         | 120000                            | 15000                         | 21000                             |                               | 92000                         | 63000                             |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Lead   |                               | 7400                          | 6900                              | 220                           | 550                               |                               | 5200                          | 3300                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Manganese  |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Mercury  |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Molybdenum   |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Nickel   |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Selenium   |                               | 56                            | 13                                | <10                           | <10                               |                               | 22                            | 16                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Silver   |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Thallium   |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Zinc   |                               | 7600                          | 17000                             | 220                           | 2000                              |                               | 9200                          | 7300                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Arsenic  | 1600                          |                               |                                   |                               |                                   | 270                           |                               |                                   | 12                             | 57                             | 43                             | 50                             | 19                             | 18                             | 41                             | 27                             | 37                             | 520                            | 73                             | 49                             | 30                             | 260                            | 87                             |
| Cadmium  | 450                           |                               |                                   |                               |                                   | 52                            |                               |                                   | 13                             | <10                            | <10                            | 13                             | 11                             | <10                            | 13                             | <10                            | <10                            | 2800                           | 11                             | <10                            | <10                            | 72                             | 17                             |
| Chromium   | 330                           |                               |                                   |                               |                                   | 150                           |                               |                                   | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | 97                             | <80                            | <80                            | <80                            | 190                            | <80                            |                                |
| Copper   | 6300                          |                               |                                   |                               |                                   | 1400                          |                               |                                   | 48                             | 53                             | 140                            | 100                            | 52                             | 93                             | 45                             | 110                            | 1500                           | 250                            | 160                            | 77                             | 900                            | 510                            |                                |
| Iron   | 120000                        |                               |                                   |                               |                                   | 47000                         |                               |                                   | 3000                           | 14000                          | 9600                           | 8100                           | 5000                           | 11000                          | 6000                           | 13000                          | 12000                          | 13000                          | 12000                          | 15000                          | 7400                           | 57000                          | 16000                          |
| Lead   | 10000                         |                               |                                   |                               |                                   | 1700                          |                               |                                   | 78                             | 41                             | 44                             | 200                            | 55                             | 60                             | 140                            | 70                             | 77                             | 1500                           | 230                            | 100                            | 65                             | 1100                           | 510                            |
| Selenium   | 70                            |                               |                                   |                               |                                   | 12                            |                               |                                   | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            |
| Zinc   | 77000                         |                               |                                   |                               |                                   | 7500                          |                               |                                   | <10                            | <10                            | <10                            | 91                             | <10                            | 75                             | 12                             | 100                            | 29                             | 7700                           | 75                             | 410                            | <10                            | 1500                           | 720                            |
| <b>VOCs (mg/kg)</b>  |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Benzene  |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Ethylbenzene   |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Toluene  |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Total Xylenes  |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| <b>TPH (mg/kg)</b>   |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| C6-C12   |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Over C12-C28   |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Over C28-C35   |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Total Petroleum Hydrocarbons                               |                               |                               |                                   |                               |                                   |                               |                               |                                   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |

Notes are included on Page 20.

Table F-3  
Soil Analytical Data - Parker Brothers Arroyo  
Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH12-17<br>55 - 56<br>4/5/2001 | BH12-18<br>43 - 44<br>4/5/2001 | BH12-18<br>48 - 49<br>4/5/2001 | BH12-19<br>40 - 41<br>4/5/2001 | BH12-19<br>45 - 46<br>4/5/2001 | BH12-20<br>31 - 32<br>4/5/2001 | BH12-20<br>36 - 37<br>4/5/2001 | BH12-21<br>20 - 21<br>4/5/2001 | BH12-21<br>25 - 26<br>4/5/2001 | BH12-22<br>25 - 26<br>4/6/2001 | BH12-22<br>31 - 32<br>4/6/2001 | BH12-26<br>10 - 11<br>7/17/2001 | BH12-26<br>12 - 13<br>7/17/2001 | BH12-26<br>4 - 5<br>7/17/2001 | BH12-26<br>7 - 8<br>7/17/2001 | BH12-28<br>15 - 16<br>7/18/2001 | BH12-29<br>10 - 11<br>7/18/2001 | BH12-29<br>12 - 13<br>7/18/2001 | BH12-29<br>4 - 5<br>7/18/2001 | BH12-29<br>7 - 8<br>7/18/2001 | BH12-30<br>10 - 11<br>7/18/2001 | BH12-30<br>12 - 13<br>7/18/2001 | BH12-30<br>15 - 16<br>7/18/2001 |
|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|---------------------------------|---------------------------------|---------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Antimony   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Arsenic  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Barium   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Cadmium  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Chromium   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Chromium, hexavalent                                       |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Cobalt   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Copper   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Iron   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Lead   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Manganese  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Mercury  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Molybdenum   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Nickel   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Selenium   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Silver   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Thallium   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Zinc   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Arsenic  | 39                             | 47                             | 47                             | 59                             | 34                             | 21                             | 29                             | 85                             | 39                             | 88                             | 40                             | 13                              | 26                              | 25                            | 44                            | 36                              | 25                              | 34                              | 24                            | 44                            | 31                              | 22                              | 22                              |
| Cadmium  | <10                            | 11                             | <10                            | <10                            | <10                            | <10                            | 10                             | 14                             | 12                             | <10                            | <10                            | <10                             | 14                              | <10                           | <10                           | 24                              | 12                              | <10                             | 10                            | 16                            | <10                             | <10                             | <10                             |
| Chromium   | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | 97                             | <80                            | <80                             | 88                              | <80                           | <80                           | <80                             | <80                             | <80                             | <80                           | <80                           | <80                             | <80                             | <80                             |
| Copper   | 200                            | 160                            | 83                             | 78                             | 93                             | <20                            | 45                             | 67                             | 38                             | 80                             | 55                             | 59                              | 98                              | 100                           | 210                           | 140                             | 46                              | 100                             | 45                            | 52                            | 82                              | 37                              | 59                              |
| Iron   | 7500                           | 11000                          | 17000                          | 20000                          | 16000                          | 17000                          | 17000                          | 20000                          | 24000                          | 20000                          | 21000                          | 14000                           | 20000                           | 13000                         | 15000                         | 4800                            | 14000                           | 9600                            | 11000                         | 15000                         | 18000                           | 14000                           | 11000                           |
| Lead   | 230                            | 51                             | 60                             | 54                             | 64                             | 46                             | 45                             | 51                             | 59                             | 42                             | 55                             | 66                              | 92                              | 130                           | 150                           | 190                             | 43                              | 80                              | 87                            | 64                            | 47                              | 41                              | 59                              |
| Selenium   | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                             | <20                             | <20                           | <20                           | <20                             | <20                             | <20                             | <20                           | <20                           | <20                             | <20                             | <20                             |
| Zinc   | 220                            | <10                            | 11                             | 49                             | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                             | 240                             | 65                            | 79                            | 55                              | <10                             | <10                             | 38                            | <10                           | 180                             | <10                             | <10                             |
| <b>VOCs (mg/kg)</b>  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Benzene  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Ethylbenzene   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Toluene  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Total Xylenes  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| <b>TPH (mg/kg)</b>   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| C6-C12   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Over C12-C28   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Over C28-C35   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |
| Total Petroleum Hydrocarbons                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                 |                                 |                               |                               |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH12-30<br>17 - 18<br>7/18/2001 | BH12-31<br>10 - 11<br>7/18/2001 | BH12-31<br>12 - 13<br>7/18/2001 | BH12-31<br>15 - 16<br>7/18/2001 | BH12-31<br>7 - 8<br>7/18/2001 | BH12-32<br>12 - 13<br>7/18/2001 | BH12-32<br>15 - 16<br>7/18/2001 | BH12-32<br>7 - 8<br>7/18/2001 | BH12-33<br>12 - 13<br>7/18/2001 | BH12-34<br>10 - 11<br>7/18/2001 | BH12-34<br>12 - 13<br>7/18/2001 | BH12-34<br>15 - 16<br>7/18/2001 | BH12-34<br>4 - 5<br>7/18/2001 | BH12-34<br>7 - 8<br>7/18/2001 | BH12-35<br>10 - 11<br>7/18/2001 | BH12-35<br>12 - 13<br>7/18/2001 | BH12-35<br>15 - 16<br>7/18/2001 | BH12-35<br>17 - 18<br>7/18/2001 | BH12-35<br>7 - 8<br>7/18/2001 | BH12-36<br>10 - 11<br>7/18/2001 | BH12-36<br>12 - 13<br>7/18/2001 | BH12-37<br>10 - 11<br>7/19/2001 | BH12-37<br>15 - 16<br>7/19/2001 |    |
|--|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----|
| <b>Metals (mg/kg)</b>                                      |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Antimony   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Arsenic  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Barium   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Cadmium  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Chromium   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Chromium, hexavalent                                       |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Cobalt   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Copper   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Iron   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Lead   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Manganese  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Mercury  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Molybdenum   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Nickel   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Selenium   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Silver   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Thallium   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Zinc   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Arsenic  | 23                              | 27                              | 33                              | 32                              | 35                            | 34                              | 44                              | 120                           | 15                              | 73                              | 250                             | 140                             | 49                            | 160                           | 74                              | 29                              | 68                              | 63                              | 110                           | 700                             | 100                             | 120                             | 19                              |    |
| Cadmium  | 12                              | 13                              | <10                             | <10                             | 10                            | <10                             | <10                             | 26                            | <10                             | 14                              | 180                             | 100                             | 39                            | 58                            | 21                              | <10                             | 24                              | 25                              | 35                            | 540                             | 83                              | 13                              | <10                             |    |
| Chromium   | <80                             | <80                             | 86                              | <80                             | <80                           | <80                             | <80                             | <80                           | <80                             | 140                             | 100                             | <80                             | <80                           | <80                           | <80                             | <80                             | <80                             | <80                             | <80                           | 98                              | <80                             | <80                             | <80                             |    |
| Copper   | <20                             | 41                              | 41                              | <20                             | 90                            | 190                             | 190                             | 530                           | 180                             | 720                             | 1700                            | 1100                            | 440                           | 180                           | 1300                            | 410                             | 43                              | 360                             | 360                           | 710                             | 3000                            | 1200                            | 900                             | 40 |
| Iron   | 9800                            | 14000                           | 23000                           | 18000                           | 14000                         | 11000                           | 15000                           | 19000                         | 6500                            | 55000                           | 26000                           | 11000                           | 18000                         | 18000                         | 16000                           | 15000                           | 17000                           | 13000                           | 24000                         | 25000                           | 9100                            | 16000                           | 14000                           |    |
| Lead   | 53                              | 52                              | 26                              | 47                              | 91                            | 110                             | 150                             | 670                           | 91                              | 170                             | 2500                            | 1600                            | 510                           | 1300                          | 530                             | 51                              | 460                             | 480                             | 930                           | 6100                            | 1200                            | 670                             | 41                              |    |
| Selenium   | <20                             | <20                             | <20                             | <20                             | <20                           | <20                             | <20                             | <20                           | <20                             | <20                             | <20                             | <20                             | <20                           | <20                           | <20                             | <20                             | <20                             | <20                             | <20                           | <20                             | <20                             | <20                             | <20                             |    |
| Zinc   | <10                             | <10                             | 18                              | <10                             | 17                            | 370                             | 94                              | 350                           | 170                             | 2300                            | 1700                            | 910                             | 590                           | 740                           | 260                             | <10                             | 270                             | 240                             | 410                           | 2700                            | 420                             | 280                             | 17                              |    |
| <b>VOCs (mg/kg)</b>  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Benzene  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Ethylbenzene   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Toluene  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Total Xylenes  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| <b>TPH (mg/kg)</b>   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| C6-C12   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Over C12-C28   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Over C28-C35   |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |
| Total Petroleum Hydrocarbons                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                               |                               |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |    |

Notes are included on Page 20.



**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH12-37<br>18 - 19<br>7/19/2001 | BH12-37<br>7 - 8<br>7/19/2001 | BH12-38<br>5 - 6<br>7/19/2001 | BH17-18<br>13 - 14<br>3/6/2001 | BH17-18<br>18 - 19<br>3/6/2001 | BH17-19<br>0 - 1<br>3/6/2001 | BH17-19<br>15 - 16<br>3/6/2001 | BH17-19<br>20 - 21<br>3/6/2001 | BH2-10<br>47 - 48<br>3/29/2001 | BH2-10<br>51 - 52<br>3/29/2001 | BH2-11<br>21 - 22<br>3/29/2001 | BH2-11<br>26 - 27<br>3/29/2001 | BH2-13<br>15 - 16<br>3/30/2001 | BH2-13<br>18 - 19<br>3/30/2001 | BH2-13<br>26 - 27<br>3/30/2001 | BH2-8<br>65 - 66<br>3/28/2001 | BH2-8<br>70 - 71<br>3/28/2001 | BH2-9<br>62 - 63<br>3/28/2001 | BH2-9<br>66 - 67<br>3/28/2001 | BL2<br>0 - 0_2<br>7/27/2000 | BL2<br>10 - 11_5<br>7/27/2000 | BL2<br>14_5 - 16<br>7/27/2000 | BL2<br>19 - 20_5<br>7/27/2000 |
|--|---------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Antimony   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Arsenic  |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                | 29                             |                                |                               |                               |                               |                               | 216                         | <20                           | <20                           | <20                           |
| Barium   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Cadmium  |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                | <10                            |                                |                               |                               |                               | <10                           | <10                         | <10                           | <10                           |                               |
| Chromium   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                | 30                             |                                |                               |                               |                               |                               | 173                         | 89                            | 118                           | 89                            |
| Chromium, hexavalent                                       |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Cobalt   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Copper   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                | 120                            |                                |                               |                               |                               |                               | 2960                        | 135                           | <20                           | <20                           |
| Iron   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                | 20800                          |                                |                               |                               |                               |                               | 75000                       | 22000                         | 18000                         | 8500                          |
| Lead   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                | 32                             |                                |                               |                               |                               |                               | 629                         | 46                            | 26                            | 44                            |
| Manganese  |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Mercury  |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Molybdenum   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Nickel   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Selenium   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                | <10                            |                                |                               |                               |                               | <20                           | <20                         | <20                           | <20                           |                               |
| Silver   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Thallium   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Zinc   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                | 169                            |                                |                               |                               |                               |                               | 5040                        | 234                           | 45                            | 22                            |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Arsenic  | 33                              | 190                           | 27                            | 13                             | <10                            | 86                           | 35                             | <10                            | 66                             | 55                             | 120                            | 87                             | 46                             | 42                             | 86                             | 190                           | 180                           | 930                           | 74                            | 310                         | 26                            | 14                            | <10                           |
| Cadmium  | 12                              | 19                            | <10                           | <10                            | <10                            | 36                           | 11                             | 11                             | <10                            | <10                            | 45                             | <10                            | <10                            | <10                            | <10                            | <10                           | 12                            | <10                           | 14                            | <10                         | <10                           | <10                           | <10                           |
| Chromium   | <80                             | <80                           | <80                           | <200                           | <200                           | <200                         | <200                           | <200                           | <200                           | <200                           | <200                           | <200                           | <80                            | <80                            | <80                            | <200                          | <200                          | <200                          | <200                          | 170                         | <80                           | <80                           | <80                           |
| Copper   | <20                             | 1000                          | 58                            | 29                             | <20                            | 240                          | 20                             | <20                            | 28                             | 62                             | 41                             | 34                             | <20                            | 180                            | 130                            | 30                            | 64                            | 39                            | 38                            | 15                          | 2900                          | 120                           | <20                           |
| Iron   | 17000                           | 22000                         | 14000                         | 9600                           | 7400                           | 7600                         | 15000                          | 4700                           | 12000                          | 16000                          | 13000                          | 13000                          | 20000                          | 17000                          | 20000                          | 17000                         | 16000                         | 24000                         | 17000                         | 73000                       | 26000                         | 22000                         | 9200                          |
| Lead   | 32                              | 1100                          | 59                            | 53                             | 21                             | 220                          | 110                            | 10                             | 48                             | 51                             | 63                             | 43                             | 120                            | 65                             | 77                             | 100                           | 120                           | 150                           | 58                            | 800                         | 32                            | 38                            | 53                            |
| Selenium   | <20                             | <20                           | <20                           | <40                            | <40                            | <40                          | <40                            | <40                            | <40                            | <40                            | <40                            | <40                            | <20                            | <20                            | <20                            | <40                           | <40                           | 50                            | <40                           | <10                         | <10                           | <10                           | <10                           |
| Zinc   | <10                             | 750                           | <10                           | 66                             | 36                             | 150                          | 240                            | 16                             | 44                             | 35                             | 150                            | 53                             | 150                            | 11                             | 26                             | 160                           | 230                           | 200                           | 150                           | 3800                        | 190                           | 44                            | <10                           |
| <b>VOCs (mg/kg)</b>  |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Benzene  |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Ethylbenzene   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Toluene  |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Total Xylenes  |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| <b>TPH (mg/kg)</b>   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| C6-C12   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Over C12-C28   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Over C28-C35   |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |
| Total Petroleum Hydrocarbons                               |                                 |                               |                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |                               |                               |                             |                               |                               |                               |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BL2<br>24 - 25_5<br>7/27/2000 | BL2<br>27 - 27_5<br>7/31/2000 | BL2<br>29 - 29_8<br>7/31/2000 | BL2<br>33 - 33_5<br>7/31/2000 | BL2<br>5 - 6_5<br>7/27/2000 | EP-120<br>10 - 11<br>4/6/2001 | EP-120<br>15 - 16<br>4/6/2001 | EP-120<br>5 - 6<br>4/6/2001 | EP-121<br>10 - 11<br>4/10/2001 | EP-123<br>21 - 22<br>4/12/2001 | EP-123<br>23 - 24<br>4/12/2001 | EP-123<br>25 - 26<br>4/12/2001 | EP-123<br>30 - 31<br>4/12/2001 | EP-123<br>35 - 36<br>4/12/2001 | EP-123<br>40 - 41<br>4/12/2001 | EP-125<br>0 - 1<br>4/24/2001 | EP-125<br>1 - 2<br>4/24/2001 | EP-125<br>10 - 11<br>4/24/2001 | EP-125<br>15 - 16<br>4/24/2001 | EP-125<br>20 - 21<br>4/24/2001 | EP-125<br>25 - 26<br>4/24/2001 | EP-125<br>30 - 31<br>4/24/2001 | EP-125<br>35 - 36<br>4/24/2001 |    |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|----|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Antimony   |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Arsenic  | <20                           | 13                            | 20                            | 18                            | 36                          |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Barium   |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Cadmium  | <10                           | <10                           | <10                           | <10                           | <10                         |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Chromium   | 129                           | 66                            | 62                            | 78                            | 114                         |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Chromium, hexavalent                                       |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Cobalt   |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Copper   | <20                           | 15                            | 16                            | 22                            | 522                         |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Iron   | 2800                          | 10000                         | 44000                         | 14000                         | 27000                       |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Lead   | 26                            | 28                            | 40                            | 36                            | 181                         |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Manganese  |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Mercury  |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Molybdenum   |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Nickel   |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Selenium   | <20                           | <10                           | <10                           | <10                           | <20                         |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Silver   |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Thallium   |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Zinc   | <10                           | 28                            | 40                            | 90                            | 1010                        |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Arsenic  | <10                           | <10                           | <10                           | <10                           | 49                          | 60                            | 23                            | 77                          | 51                             | 800                            | 77                             | 21                             | 29                             | <10                            | 23                             | 180                          | 78                           | 16                             | 33                             | 38                             | 33                             | 34                             | 26                             |    |
| Cadmium  | <10                           | <10                           | <10                           | <10                           | <10                         | 11                            | <10                           | <10                         | 17                             | 33                             | 13                             | <10                            | 13                             | <10                            | <10                            | 23                           | <10                          | <10                            | <10                            | <10                            | <10                            | 11                             | <10                            | 12 |
| Chromium   | 88                            | <80                           | <80                           | 130                           | 190                         | <80                           | <80                           | <80                         | <80                            | 440                            | 130                            | <80                            | <80                            | <80                            | <80                            | <80                          | <80                          | <80                            | <80                            | <80                            | 100                            | 89                             | <80                            | 89 |
| Copper   | <20                           | <20                           | 47                            | 55                            | 470                         | 350                           | 140                           | 220                         | 200                            | 470                            | 3800                           | 200                            | 61                             | 69                             | 44                             | 2800                         | 1100                         | <20                            | 64                             | 33                             | 33                             | 38                             | 29                             |    |
| Iron   | 3400                          | 9600                          | 50000                         | 14000                         | 31000                       | 14000                         | 6400                          | 23000                       | 12000                          | 170000                         | 33000                          | 9200                           | 8800                           | 4600                           | 8800                           | 11000                        | 9300                         | 8600                           | 19000                          | 27000                          | 24000                          | 18000                          | 21000                          |    |
| Lead   | 63                            | 56                            | <10                           | 70                            | 150                         | 220                           | 120                           | 150                         | 180                            | 1400                           | 170                            | 71                             | 59                             | 48                             | 78                             | 840                          | 520                          | 28                             | 47                             | 43                             | 46                             | 50                             | 59                             |    |
| Selenium   | <10                           | <10                           | <10                           | <10                           | <10                         | <20                           | <20                           | <20                         | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                          | <20                          | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            |    |
| Zinc   | <10                           | 15                            | <10                           | 57                            | 770                         | 360                           | 92                            | 330                         | 250                            | 7600                           | 250                            | 48                             | <10                            | <10                            | <10                            | 410                          | 1300                         | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            |    |
| <b>VOCs (mg/kg)</b>  |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Benzene  |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Ethylbenzene   |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Toluene  |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Total Xylenes  |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| <b>TPH (mg/kg)</b>   |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| C6-C12   |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Over C12-C28   |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Over C28-C35   |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |
| Total Petroleum Hydrocarbons                               |                               |                               |                               |                               |                             |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                                |                                |                                |                                |    |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-125<br>40 - 41<br>4/24/2001 | EP-125<br>45 - 46<br>4/24/2001 | EP-125<br>6 - 7<br>4/24/2001 | EP-126<br>0_3 - 1<br>4/26/2001 | EP-126<br>1 - 2<br>4/26/2001 | EP-126<br>10 - 11<br>4/26/2001 | EP-126<br>15 - 16<br>4/26/2001 | EP-126<br>2 - 3<br>4/26/2001 | EP-126<br>20 - 21<br>4/26/2001 | EP-126<br>25 - 26<br>4/26/2001 | EP-126<br>3 - 4<br>4/26/2001 | EP-126<br>30 - 31<br>4/26/2001 | EP-126<br>35 - 36<br>4/26/2001 | SEP-14<br>0 - 0_5<br>11/14/2000 | SEP-14<br>0 - 0_5<br>2/27/2001 | SEP-14<br>0 - 0_5<br>2/8/2000 | SEP-14<br>0 - 0_5<br>5/17/2001 | SEP-14<br>0 - 0_5<br>5/9/2000 | SEP-14<br>0 - 0_5<br>8/21/2000 | BY-01<br>15 - 20<br>6/24/2011 | BY-01<br>40 - 61<br>6/24/2011 | BY-01<br>5 - 6<br>6/24/2011 | BY-02<br>10 - 16<br>6/24/2011 |
|--|--------------------------------|--------------------------------|------------------------------|--------------------------------|------------------------------|--------------------------------|--------------------------------|------------------------------|--------------------------------|--------------------------------|------------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |
| Antimony   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                | 66.1                          | 503                           | 60.6                        | 482                           |
| Arsenic  |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                | 970                             | 846 J                          |                               |                                | 1800                          | 1200                           | 595                           | 2470                          | 869                         | 2760                          |
| Barium   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                | 929                           | 1120                          | 1080                        | 1010                          |
| Cadmium  |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                | 89                              | 17 J                           |                               |                                | 40                            | 32                             | 59.2                          | 27.1                          | 58.6                        | 69.5                          |
| Chromium   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                | 230                             | 124 J                          |                               |                                | 390                           | 280                            | 46.9 J                        | 86.4 J                        | 18.3 J                      | 77.4 J                        |
| Chromium, hexavalent                                       |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |
| Cobalt   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                | 40                            | 91.8                          | 13.5                        | 64.4                          |
| Copper   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                | 14000                           | 6730                           |                               |                                | 17000                         | 15000                          | 5250                          | 7550                          | 2500                        | 8220                          |
| Iron   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                | 190000                          | 282000                         |                               |                                | 260000                        | 190000                         | 129000                        | 209000                        | 160000                      | 224000                        |
| Lead   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                | 4900                            | 3930 J                         |                               |                                | 5900                          | 4200                           | 5470                          | 9120                          | 6920                        | 9230                          |
| Manganese  |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |
| Mercury  |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                | 1.07 J                        | 0.351 J                       | 0.767 J                     | <0.012 UJ                     |
| Molybdenum   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                | 143                           | 192                           | 90.8                        | 239                           |
| Nickel   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                | 15.5                          | 12.5                          | 6.37                        | 15.3                          |
| Selenium   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                | <10                             | <10 UJ                         |                               |                                | 11                            | <10                            | 9.33 J                        | 59.9 J                        | 12.6 J                      | 101 J                         |
| Silver   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                | 23.7 J                        | 40.5 J                        | 14.9 J                      | 36.3 J                        |
| Thallium   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |
| Zinc   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                | 16000                           | 19600                          |                               |                                | 25000                         | 15000                          | 13000                         | 70300                         | 23700                       | 114000                        |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |
| Arsenic  | 21                             | 31                             | 36                           | 190                            | 55                           | 29                             | 13                             | 120                          | 34                             | 30                             | 48                           | 26                             | 32                             |                                 |                                |                               | 1400                           | 1700                          |                                |                               |                               |                             |                               |
| Cadmium  | <10                            | <10                            | 13                           | 74                             | 64                           | <10                            | <10                            | 54                           | <10                            | <10                            | 23                           | <10                            | 13                             |                                 |                                |                               | 51 J                           | 43                            |                                |                               |                               |                             |                               |
| Chromium   | <80                            | <80                            | 82                           | 110                            | 120                          | <80                            | <80                            | 100                          | 86                             | 86                             | 88                           | 94                             | <80                            |                                 |                                |                               | 130                            | 730 J                         |                                |                               |                               |                             |                               |
| Copper   | 30                             | 77                             | 71                           | 1700                           | 1100                         | 52                             | 58                             | 1500                         | 26                             | <20                            | 970                          | <20                            | <20                            |                                 |                                |                               | 15000                          | 9500                          |                                |                               |                               |                             |                               |
| Iron   | 18000                          | 15000                          | 20000                        | 43000                          | 48000                        | 20000                          | 19000                          | 55000                        | 24000                          | 22000                          | 37000                        | 25000                          | 19000                          |                                 |                                |                               | 260000                         | 310000                        |                                |                               |                               |                             |                               |
| Lead   | 60                             | 65                             | 200                          | 2900                           | 1400                         | 48                             | 50                             | 1900                         | 42                             | 38                             | 1100                         | 51                             | 49                             |                                 |                                |                               | 5100                           | 1500                          |                                |                               |                               |                             |                               |
| Selenium   | <20                            | <20                            | <20                          | <20                            | <20                          | <20                            | <20                            | <20                          | <20                            | <20                            | <20                          | <20                            | <20                            |                                 |                                |                               | <10                            | 27                            |                                |                               |                               |                             |                               |
| Zinc   | <10                            | <10                            | 1100                         | 8700                           | 6000                         | <10                            | <10                            | 9100                         | <10                            | <10                            | 3700                         | <10                            | <10                            |                                 |                                |                               | 18000                          | 16000                         |                                |                               |                               |                             |                               |
| <b>VOCs (mg/kg)</b>  |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |
| Benzene  |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |
| Ethylbenzene   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |
| Toluene  |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |
| Total Xylenes  |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |
| <b>TPH (mg/kg)</b>   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |
| C6-C12   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |
| Over C12-C28   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |
| Over C28-C35   |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |
| Total Petroleum Hydrocarbons                               |                                |                                |                              |                                |                              |                                |                                |                              |                                |                                |                              |                                |                                |                                 |                                |                               |                                |                               |                                |                               |                               |                             |                               |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BY-02<br>30 - 31<br>6/24/2011 | BY-02<br>5 - 6<br>6/24/2011 | BY-02<br>50 - 51<br>6/27/2011 | BY-03<br>25 - 27<br>11/30/2011 | BY-03<br>40 - 42<br>11/30/2011 | BY-03<br>50 - 52<br>11/30/2011 | BY-03<br>60 - 62<br>11/30/2011 | BY-03<br>7 - 12<br>11/29/2011 | BY-04<br>0 - 2<br>12/1/2011 | BY-04<br>20 - 22<br>12/1/2011 | BY-04<br>45 - 47<br>12/1/2011 | BY-04<br>5 - 7<br>12/1/2011 | BY-05<br>20 - 22<br>11/30/2011 | BY-05<br>35 - 37<br>11/30/2011 | BY-05<br>40 - 42<br>11/30/2011 | BY-05<br>5 - 7<br>11/30/2011 | BY-06<br>20 - 22<br>12/5/2011 | BY-06<br>35 - 37<br>12/5/2011 | BY-06<br>5 - 7<br>12/5/2011 | BY-06<br>50 - 52<br>12/5/2011 | BY-06<br>65 - 67<br>12/5/2011 | BY-07<br>15 - 17<br>12/1/2011 | BY-07<br>20 - 22<br>12/1/2011 |  |
|--|-------------------------------|-----------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Antimony   | 129                           | 577                         | 8.69                          | 143                            | 6.41                           | 17.6                           | 4.14                           | 1290                          | 253                         | 7.31                          | 0.899 J                       | 63.1                        | 706                            | 423                            | 19.4                           | 475                          | 222                           | 102                           | 49.8                        | 381                           | 22.9                          | 8.2                           | 4.82                          |  |
| Arsenic  | 791                           | 2580                        | 502                           | 572                            | 142                            | 378                            | 57.7                           | 3480                          | 3150                        | 922                           | 88.5                          | 1710                        | 2210                           | 1170                           | 212                            | 2090                         | 635                           | 469                           | 235                         | 1550                          | 47.9                          | 128                           | 39.8                          |  |
| Barium   | 376                           | 970                         | 49.8                          | 872                            | 354                            | 318                            | 191                            | 1400                          | 732                         | 134                           | 85.2                          | 961                         | 729                            | 548                            | 148                            | 762                          | 642                           | 893                           | 381                         | 1020                          | 83.8                          | 384                           | 143                           |  |
| Cadmium  | 39.4                          | 63.9                        | 56.7                          | 20.9                           | 13.7                           | 60.8                           | 0.811                          | 68.3                          | 121                         | 592                           | 6.6                           | 32.7                        | 86.7                           | 24.4                           | 1.78                           | 66.1                         | 27.7                          | 9.99                          | 24.2                        | 21.5                          | 1.01                          | 10.2                          | 4.64                          |  |
| Chromium   | 28.1 J                        | 133 J                       | 12.3 J                        | 30.5                           | 0.408 J                        | 6.58                           | 4.79                           | 23.2                          | 18.1                        | 5.46                          | 4.06                          | 10.1                        | 33.5                           | 25.6                           | 7.2                            | 93.6                         | 33.4                          | 103                           | 5.69                        | 61.9                          | 5.49                          | 3.56                          | 3.73                          |  |
| Chromium, hexavalent                                       |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Cobalt   | 14.9                          | 52.4                        | 3.59                          | 62.2                           | 44.8                           | 37.9 J                         | 4.13 J                         | 116 J                         | 36.3 J                      | 4.45 J                        | 3.14 J                        | 5.86 J                      | 55.1 J                         | 25.9 J                         | 3.96 J                         | 71.3 J                       | 55.2 J                        | 61.7 J                        | 13.5 J                      | 84.7 J                        | 4.75 J                        | 27.4 J                        | 4.49 J                        |  |
| Copper   | 2120                          | 8820                        | 39.4                          | 3920                           | 2300                           | 1260                           | 10.4                           | 11000                         | 61000                       | 436                           | 7.64                          | 1610                        | 8250                           | 2240                           | 66                             | 10100                        | 10800                         | 5770                          | 1690                        | 7310                          | 78.4                          | 3460                          | 265                           |  |
| Iron   | 29000                         | 185000                      | 9600                          | 74300                          | 95000                          | 78500                          | 9760                           | 100000                        | 53500                       | 8740                          | 10400                         | 28700                       | 98600                          | 78100                          | 8660                           | 125000                       | 81300                         | 99000                         | 50600                       | 133000                        | 10800                         | 98400                         | 13100                         |  |
| Lead   | 1380                          | 8760                        | 18.3                          | 5580                           | 4240                           | 2870                           | 7.7                            | 19200                         | 4390                        | 108                           | 8.27                          | 2590                        | 12600                          | 6210                           | 120                            | 9000                         | 4650                          | 3350                          | 3720                        | 8370                          | 196                           | 3830                          | 468                           |  |
| Manganese  |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Mercury  | 0.0513 J                      | 0.0715 J                    | 0.0263 J                      | 0.33 J                         | 0.638 J                        | <0.171 UJ                      | <0.124 UJ                      | <0.101 UJ                     | 7.43 J                      | 13.9 J                        | <0.0399 UJ                    | 0.547 J                     | 0.408 J                        | 0.181 J                        | <0.0124 UJ                     | 1.06 J                       | <0.12 UJ                      | <0.00956 UJ                   | <0.188 UJ                   | <0.0474 UJ                    | <0.0364 UJ                    | <0.0178 UJ                    | <0.153 UJ                     |  |
| Molybdenum   | 36.8                          | 204                         | 1.55 J                        | 112                            | 50.7                           | 56.1 J                         | 1.63 J                         | 193 J                         | 108 J                       | 0.939 J                       | 0.902 J                       | 16.9 J                      | 121 J                          | 159 J                          | 23.6 J                         | 171 J                        | 125 J                         | 133 J                         | 43.2 J                      | 181 J                         | 3.4 J                         | 108 J                         | 9.38 J                        |  |
| Nickel   | 9.35                          | 10.5                        | 5.99                          | 7.06                           | 1.19 J                         | 5.49                           | 4.89                           | 38.4                          | 88.2                        | 7.02                          | 6.06                          | 9                           | 10.1                           | 4.76                           | 5.79                           | 23.5                         | 13.4                          | 8.87                          | 4.59                        | 7.96                          | 3.72                          | 2.24                          | 3.79                          |  |
| Selenium   | 18.6 J                        | 109 J                       | 5.73 J                        | 42.8                           | 17.1                           | 20.3 J                         | 2.48 J                         | 41.2 J                        | 58.8 J                      | 9.58 J                        | 0.744 J                       | 18 J                        | 47.4 J                         | 24.9 J                         | 7.56 J                         | 73.7 J                       | 52.8 J                        | 85.2 J                        | 3.7 J                       | 57.1 J                        | 2.0 J                         | 55 J                          | 1.88 J                        |  |
| Silver   | 12.4 J                        | 47.1 J                      | <0.11                         | 12.7                           | 4.23                           | 3.79                           | <0.0969                        | 56.9                          | 86.7                        | 1.99                          | <0.119                        | 13.9                        | 46.7                           | 16.5                           | 0.83                           | 50.1                         | 28.6                          | 20.9                          | 15.3                        | 32.9                          | 0.421 J                       | 4.89                          | 0.949                         |  |
| Thallium   |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Zinc   | 7140                          | 135000                      | 588                           | 33200                          | 43800                          | 35400                          | 20.2                           | 144000                        | 7310                        | 780                           | 169                           | 2870                        | 9000                           | 47300                          | 675                            | 99200                        | 103000                        | 99100                         | 8120                        | 158000                        | 1340                          | 78300                         | 2840                          |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Arsenic  |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Cadmium  |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Chromium   |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Copper   |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Iron   |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Lead   |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Selenium   |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Zinc   |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| <b>VOCs (mg/kg)</b>  |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Benzene  |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Ethylbenzene   |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Toluene  |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Total Xylenes  |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| <b>TPH (mg/kg)</b>   |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| C6-C12   |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Over C12-C28   |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Over C28-C35   |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |
| Total Petroleum Hydrocarbons                               |                               |                             |                               |                                |                                |                                |                                |                               |                             |                               |                               |                             |                                |                                |                                |                              |                               |                               |                             |                               |                               |                               |                               |  |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BY-07<br>5 - 7<br>12/1/2011 | EPH-SB01<br>10 - 11<br>6/28/2011 | EPH-SB01<br>15 - 16<br>6/28/2011 | EPH-SB01<br>30 - 31<br>6/28/2011 | EPH-SB02<br>15 - 18<br>6/28/2011 | EPH-SB02<br>33 - 34<br>6/28/2011 | FP-SB01<br>20 - 21<br>6/29/2011 | FP-SB01<br>35 - 36<br>6/29/2011 | FP-SB01<br>45 - 46<br>6/29/2011 | FP-SB01<br>47 - 48<br>6/29/2011 | FP-SB01<br>5 - 6<br>6/29/2011 | FP-SB01<br>55 - 56<br>6/29/2011 | FP-SB01<br>55 - 56<br>6/29/2011 | FP-SB01<br>70 - 71<br>6/29/2011 | FP-SB02<br>20 - 21<br>8/11/2011 | FP-SB02<br>40 - 41<br>8/11/2011 | FP-SB02<br>5 - 6<br>8/11/2011 | FP-SB03<br>23 - 25<br>8/15/2011 | FP-SB03<br>35 - 37<br>8/15/2011 | FP-SB03<br>8 - 10<br>8/15/2011 | FP-SB04<br>23 - 25<br>8/16/2011 | FP-SB04<br>33 - 34<br>8/16/2011 | FP-SB04<br>5 - 10<br>8/15/2011 |  |
|--|-----------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|--------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Antimony   | 6.01                        | 34.6                             | 8.47 J                           | 2.42                             | 0.952 J                          | 0.695 J                          | 34.5                            | 106                             | 143                             | 89.9                            | 13.5                          | 4.72                            | 1.61 J                          | 2.26                            | 61.6                            | 53.4                            | 369                           | 89.4                            | 149                             | 249                            | 92.5                            | 110                             | 102                            |  |
| Arsenic  | 142                         | 383                              | 26.1 J                           | 20.8                             | 24.7                             | 17.6                             | 392                             | 997                             | 388                             | 256                             | 213                           | 21                              | 14.0                            | 8.24                            | 250                             | 224                             | 1770                          | 811                             | 1360                            | 942                            | 864                             | 272                             | 987                            |  |
| Barium   | 497                         | 184                              | 259 J                            | 46.8                             | 87.2                             | 39.4                             | 235                             | 159                             | 388                             | 467                             | 93.2                          | 71.2 J                          | 81.0                            | 65.9                            | 1030                            | 1250                            | 152                           | 405                             | 115                             | 216                            | 375                             | 727                             | 1240                           |  |
| Cadmium  | 12.3                        | 20.4                             | 9.44 J                           | 0.315 J                          | 0.292 J                          | 0.145 J                          | 37.6                            | 32.7                            | 18.4                            | 18.6                            | 27.4                          | 1.69 J                          | 0.766                           | 0.206 J                         | 20                              | 27.3                            | 49.9                          | 8.38 J                          | 24.5                            | 38.9                           | 26.3                            | 14.5                            | 29.6                           |  |
| Chromium   | 2.14                        | 45.9                             | 9.47                             | 6.72                             | 18.2                             | 6.32                             | 97.3                            | 72.3 J                          | 99.8                            | 87.7                            | 91.1                          | 8.1                             | 4.13 J                          | 17                              | 71 J                            | 109 J                           | 122 J                         | 63.1 J                          | 39.7 J                          | 69.5 J                         | 47.2 J                          | 83.5 J                          | 79.2 J                         |  |
| Chromium, hexavalent                                       |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Cobalt   | 54.2 J                      | 149                              | 5.69 J                           | 2.21                             | 4.86                             | 1.79                             | 95.8                            | 225                             | 140                             | 91.2                            | 94.1                          | 3.86 J                          | 2.38                            | 4.02                            | 195                             | 302                             | 185                           | 84.4 J                          | 116                             | 217                            | 179                             | 134                             | 171                            |  |
| Copper   | 4590                        | 1410                             | 80 J                             | 11.4                             | 24.4                             | 4.79                             | 20000                           | 8560                            | 2720                            | 2310                            | 11100                         | 54.9 J                          | 47.0                            | 12.2                            | 8290                            | 6370                            | 15700                         | 7470                            | 8100                            | 7990                           | 6660                            | 13200                           | 8400                           |  |
| Iron   | 119000                      | 73400                            | 13200                            | 4720                             | 11500                            | 4570                             | 199000                          | 236000                          | 142000                          | 84400                           | 267000                        | 9110                            | 4880                            | 8840                            | 284000                          | 279000                          | 229000                        | 91600 J                         | 250000                          | 250000                         | 249000                          | 263000                          | 260000                         |  |
| Lead   | 4680                        | 723                              | 264 J                            | 10.5                             | 7.88                             | 2.32                             | 1270                            | 1770                            | 1460                            | 1000                            | 685                           | 88.4 J                          | 48.0                            | 4.45                            | 444                             | 398                             | 2760                          | 1820                            | 2080                            | 3000                           | 1720                            | 973                             | 2160                           |  |
| Manganese  |                             | 1530                             | 364                              | 138                              | 240                              | 110                              | 701                             |                                 | 1760                            | 1660                            | 671                           | 217 J                           |                                 | 148                             |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Mercury  | <0.26 UJ                    | 0.0369 J                         | 0.27                             | <0.0159                          | <0.00958                         | <0.013                           | <0.0123                         | 0.0486 J                        | 0.0363 J                        | 0.583                           | <0.0117                       | 0.223                           | 0.0385                          | <0.00933                        | <0.0122                         | 0.0139 J                        | 0.389                         | 0.225                           | 0.0276 J                        | 0.0291 J                       | 0.0159 J                        | <0.0124                         | 0.114 J                        |  |
| Molybdenum   | 56.3 J                      | 67.5                             | 4.26 J                           | 1.67 J                           | 3.02                             | 0.598 J                          | 1440                            | 839                             | 629                             | 383                             | 0.598 J                       | 1180                            | 1.42 J                          | 0.580                           | 1.18 J                          | 1030                            | 1780                          | 1060                            | 468 J                           | 1490                           | 1150                            | 1280                            | 1280                           |  |
| Nickel   | 0.746 J                     | 115                              | 8.68 J                           | 2.93                             | 33.7                             | 9.34                             | 204                             | 63.2 J                          | 37.6                            | 33.9                            | 188                           | 6.17 J                          | 3.48                            | 10.7                            | 29.1 J                          | 34.9 J                          | 58.9 J                        | 78.8 J                          | 39.6 J                          | 63.6 J                         | 58.3 J                          | 47.4 J                          | 59.9 J                         |  |
| Selenium   | 26.9 J                      | 4.11                             | 0.296 J                          | 2.72                             | 0.395 J                          | <0.207                           | 16.4                            | 4.53                            | 4.48                            | 5.75                            | 17.8                          | 1.15                            | 1.32                            | <0.217                          | 46.8                            | 42.3                            | 4.97                          | 7.13                            | 4.75                            | 5.36                           | 6.7                             | 11.4                            | 7.68                           |  |
| Silver   | 5.86                        | 1.65                             | 0.486 J                          | 0.321 J                          | <0.115                           | <0.115                           | 28.4                            | 10.1                            | 6.05                            | 5.72                            | 19.5                          | 0.246 J                         | 0.175 J                         | <0.12                           | 9.65                            | 8.1                             | 35.2                          | 8.84                            | 12                              | 10.5                           | 8.83                            | 13.9                            | 13.8                           |  |
| Thallium   |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Zinc   | 88800                       | 5180                             | 514 J                            | 36.7                             | 85.6                             | 10.8                             | 7450                            | 27400                           | 5810                            | 4230                            | 6540                          | 92.7                            | 49.1 J                          | 27.6                            | 25700                           | 29000                           | 13900                         | 34000                           | 51400                           | 29700                          | 42300                           | 15600                           | 28700                          |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Arsenic  |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Cadmium  |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Chromium   |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Copper   |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Iron   |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Lead   |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Selenium   |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Zinc   |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| <b>VOCs (mg/kg)</b>  |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Benzene  |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Ethylbenzene   |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Toluene  |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Total Xylenes  |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| <b>TPH (mg/kg)</b>   |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| C6-C12   |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Over C12-C28   |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Over C28-C35   |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |
| Total Petroleum Hydrocarbons                               |                             |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                                 |                                 |                                |                                 |                                 |                                |  |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | LF-EX-02<br>0 - 0.5<br>3/28/2012 | LF-EX-03<br>0 - 0.5<br>3/28/2012 | LF-EX-04<br>0 - 0.5<br>3/28/2012 | LF-EX-A1-F<br>0 - 0.5<br>6/19/2012 | LF-EX-A2-F<br>0 - 0.5<br>6/19/2012 | LF-EX-A5<br>0 - 0.5<br>4/2/2012 | LF-EX-A6<br>0 - 0.5<br>4/3/2012 | LF-EX-B1-F<br>0 - 0.5<br>6/19/2012 | LF-EX-B2-F<br>0 - 0.5<br>6/19/2012 | LF-EX-B3-F<br>0 - 0.5<br>6/19/2012 | LF-EX-B4-F<br>0 - 0.5<br>6/19/2012 | LF-EX-B6<br>0 - 0.5<br>4/2/2012 | LF-EX-C1-F<br>0 - 0.5<br>6/19/2012 | LF-EX-C2-F<br>0 - 0.5<br>6/19/2012 | LF-EX-C3-F<br>0 - 0.5<br>6/19/2012 | LF-EX-C4-F<br>0 - 0.5<br>6/19/2012 | LF-EX-C5-F<br>0 - 0.5<br>6/19/2012 | LF-EX-C6<br>0 - 0.5<br>4/2/2012 | LF-EX-C7<br>0 - 0.5<br>4/2/2012 | LF-EX-D1-F<br>0 - 0.5<br>6/19/2012 | LF-EX-D1-F<br>0 - 0.5<br>6/19/2012 | LF-EX-D2-F<br>0 - 0.5<br>6/19/2012 | LF-EX-D3-F<br>0 - 0.5<br>6/19/2012 |  |
|--|----------------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------------|---------------------------------|---------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|---------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|---------------------------------|---------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Antimony   | 0.772 J                          | 2.59                             | <0.253                           | 1.47 J                             | 2.47                               | <0.236 UJ                       | <0.269                          | 0.905 J                            | <0.245                             | 0.438 J                            | <0.269                             | 1.83                            | 1.74 J                             | <0.256                             | <0.22                              | <0.241                             | <0.21                              | 1.02 J                          | 1.13 J                          | 0.838 J                            | 0.659 J                            | <0.235                             | 0.821 J                            |  |
| Arsenic  | 18.1                             | 20.6                             | 15.2                             | 35.6                               | 103                                | 1.82                            | 1.56 J                          | 10.9                               | 7.15                               | 27                                 | 7.46                               | 12.4                            | 49.9                               | 7.02                               | 3.21                               | 7.11                               | 7.22                               | 20.9                            | 14.5                            | 25.7                               | 23.1                               | 7.93                               | 18.9                               |  |
| Barium   | 67.7                             | 66.1                             | 74.8                             | 184                                | 253                                | 44.9 J                          | 31                              | 120                                | 555                                | 265                                | 24                                 | 62 J                            | 238                                | 157                                | 13.7                               | 64.8                               | 145                                | 62.4 J                          | 63.3 J                          | 160                                | 211                                | 279                                | 90.3                               |  |
| Cadmium  | 0.448                            | 0.439 J                          | 0.259 J                          | 2.8                                | 16.1                               | 0.247 J                         | 0.178 J                         | 1.16                               | 0.627                              | 5.78                               | 1.02                               | 1.56                            | 5.7                                | 0.508                              | 0.214 J                            | 0.502                              | 1.55                               | 0.489                           | 0.927                           | 0.674                              | 0.967                              | 0.786                              | 3.03                               |  |
| Chromium   | 4.14                             | 4.45                             | 4.38                             | 5.11                               | 8.32                               | 3.45                            | 5.03                            | 5.12                               | 1.96                               | 2.84                               | <1.47 UJ                           | 3.63                            | 7.45                               | 1.56                               | 1.68                               | <1 UJ                              | 2.57                               | 3.61                            | 4.27                            | 2.91 J                             | 1.77 J                             | 1.44                               | 3.99                               |  |
| Chromium, hexavalent                                       |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Cobalt   | 2.9                              | 3.18                             | 2.83                             | 17.6                               | 21.7                               | 2.41                            | 2.35                            | 6.41                               | 3.57                               | 5.96                               | 2.52                               | 3.44                            | 17.9                               | 3.59                               | 1.32                               | 2.19                               | 3.12                               | 2.43                            | 3.21                            | 4.01                               | 3.34                               | 5.25                               | 6.27                               |  |
| Copper   | 5.53                             | 2.53                             | 2.24                             | 243                                | 1120                               | 5.68                            | 1.57 J                          | 94.4                               | 40.2                               | 273                                | 45.1                               | 47.5 J                          | 539                                | 34.9                               | 13.2                               | 20                                 | 55.7                               | 13.8                            | 28                              | 27.3                               | 25.8                               | 62.4                               | 123                                |  |
| Iron   | 9410                             | 9590                             | 8110                             | 13900                              | 22600                              | 4930                            | 7050                            | 8800                               | 6760                               | 8700                               | 8380                               | 5940                            | 16200                              | 6160                               | 2460                               | 9200                               | 6310                               | 5880                            | 7860                            | 10800                              | 8460                               | 7510                               | 9660                               |  |
| Lead   | 16.9                             | 4.2                              | 12                               | 122                                | 413                                | 4.18                            | 2.97                            | 81.9                               | 24.5                               | 93.9                               | 34.9                               | 50.1 J                          | 249                                | 23.2                               | 11.2                               | 21.2                               | 26.3                               | 10.3                            | 16.6                            | 15.8                               | 15.3                               | 23.4                               | 64.5                               |  |
| Manganese  |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Mercury  | 0.0266 J                         | 0.0358 J                         | <0.0133                          | 0.0217 J                           | 0.569                              | <0.0135                         | <0.014                          | <0.0151                            | 0.0259 J                           | 0.182                              | 0.0405 J                           | 0.0368 J                        | 0.117 J                            | 0.0397 J                           | 0.0873 J                           | <0.016                             | 0.127 J                            | 0.0715 J                        | <0.0152                         | <0.0104                            | <0.0161                            | 0.0603 J                           | 0.154                              |  |
| Molybdenum   | 0.505 J                          | 0.499 J                          | 0.395 J                          | 38.4                               | 59.2                               | 0.381 J                         | <0.126                          | 14                                 | 1.26 J                             | 10.9                               | 3.2                                | 2.9                             | 37.7                               | 1.06 J                             | 0.252 J                            | 2.13                               | 3.24                               | 0.97 J                          | 1.44 J                          | 3.03                               | 1.62 J                             | 2.92                               | 6.67                               |  |
| Nickel   | 3.52                             | 3.64                             | 3.44                             | 10.5                               | 14.8                               | 3.65                            | 2.99                            | 5.75                               | 5.84                               | 5.54                               | 3.14                               | 3.89                            | 12                                 | 5.25                               | 3.17                               | 3.46                               | 3.31                               | 3.46                            | 3.88                            | 3.41                               | 2.9                                | 5.3                                | 7.5                                |  |
| Selenium   | 0.273 J                          | 0.256 J                          | <0.188                           | 1.67                               | 3.29                               | 0.207 J                         | <0.2                            | <0.171                             | <0.182                             | 0.896                              | <0.2                               | 0.183 J                         | 1.81                               | <0.19                              | <0.163                             | <0.43 UJ                           | <0.407 UJ                          | 0.174 J                         | 0.287 J                         | 0.523 J                            | 0.615 J                            | <0.175                             | <0.883 UJ                          |  |
| Silver   | <0.094                           | <0.101                           | <0.104                           | 0.321 J                            | 2.45                               | <0.0973                         | <0.111                          | 0.149 J                            | <0.101                             | 0.329 J                            | <0.111                             | <0.0916                         | 1.09                               | <0.105                             | <0.0905                            | <0.0994                            | <0.0867                            | <0.0883                         | <0.119                          | <0.107                             | <0.102                             | <0.097                             | <0.109                             |  |
| Thallium   |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Zinc   | 52.7                             | 22.7                             | 39.4                             | 1030                               | 1870                               | 17.6                            | 11.6                            | 361                                | 74.9                               | 395                                | 90.6                               | 163                             | 1080                               | 61.9                               | 18.8                               | 36.9                               | 119                                | 36.4                            | 69.9                            | 63.2                               | 54.5                               | 86                                 | 216                                |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Arsenic  |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Cadmium  |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Chromium   |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Copper   |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Iron   |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Lead   |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Selenium   |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Zinc   |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| <b>VOCs (mg/kg)</b>  |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Benzene  |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Ethylbenzene   |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Toluene  |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Total Xylenes  |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| <b>TPH (mg/kg)</b>   |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| C6-C12   |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Over C12-C28   |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Over C28-C35   |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |
| Total Petroleum Hydrocarbons                               |                                  |                                  |                                  |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |  |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | LF-EX-D4-F<br>0 - 0.5<br>6/19/2012 | LF-EX-D5-F<br>0 - 0.5<br>6/19/2012 | LF-EX-D6<br>0 - 0.5<br>4/2/2012 | LF-EX-E1-F<br>0 - 0.5<br>6/19/2012 | LF-EX-E2-F<br>0 - 0.5<br>6/19/2012 | LF-EX-E3-F<br>0 - 0.5<br>6/19/2012 | LF-EX-E4-F<br>0 - 0.5<br>6/19/2012 | LF-EX-E5-F<br>0 - 0.5<br>6/19/2012 | LF-EX-E5-F<br>0 - 0.5<br>6/19/2012 | LF-EX-E6<br>0 - 0.5<br>4/2/2012 | LF-EX-F1-F<br>0 - 0.5<br>6/19/2012 | LF-EX-F2-F<br>0 - 0.5<br>6/19/2012 | LF-EX-F4-F<br>0 - 0.5<br>6/19/2012 | LF-EX-F5-F<br>0 - 0.5<br>6/19/2012 | LF-EX-F6<br>0 - 0.5<br>4/2/2012 | LF-EX-F7<br>0 - 0.5<br>4/2/2012 | LF-EX-G1-F<br>0 - 0.5<br>6/19/2012 | LF-EX-G2-F<br>0 - 0.5<br>6/19/2012 | LF-EX-G3-F<br>0 - 0.5<br>6/19/2012 | LF-EX-G4-F<br>0 - 0.5<br>6/19/2012 | LF-EX-G5-F<br>0 - 0.5<br>6/19/2012 | LF-EX-G6<br>0 - 0.5<br>4/2/2012 | LF-EX-G7<br>0 - 0.5<br>4/3/2012 |
|--|------------------------------------|------------------------------------|---------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|---------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|---------------------------------|---------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|---------------------------------|---------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Antimony   | <0.276                             | <0.266                             | 2.54 J                          | 2.84                               | <0.239                             | <0.252                             | <0.225                             | <0.284                             | <0.268                             | 2.52 J                          | 3.43                               | <0.248                             | <0.222                             | <0.258                             | 3.71 J                          | 4.26 J                          | 0.375 J                            | <0.247                             | <0.229                             | <0.227                             | <0.228                             | 4.4 J                           | 1.62 J                          |
| Arsenic  | 8.41                               | 4.34                               | 26.8                            | 75.1                               | 6.43                               | 14.1                               | 9.81                               | 6.96                               | 6.09                               | 29.1                            | 45.3                               | 11.5                               | 5.56                               | 14.7                               | 23.9                            | 38.6                            | 10.3                               | 9.65                               | 7.45                               | 7.28                               | 31.6                               | 31.5                            | 18.8                            |
| Barium   | 150                                | 222                                | 87 J                            | 309                                | 77.4                               | 110                                | 48.3                               | 30.2                               | 33.9                               | 85.7 J                          | 385                                | 128                                | 20.3                               | 111                                | 78.5 J                          | 86.6 J                          | 180                                | 252                                | 105                                | 119                                | 89.3                               | 78.2 J                          | 66.8 J                          |
| Cadmium  | 1.31                               | 0.301 J                            | 2.54                            | 6.81                               | 0.525                              | 2.9                                | 1.52                               | 0.427 J                            | 0.373 J                            | 1.69                            | 3.59                               | 0.963                              | 0.284 J                            | 2.37                               | 2.95                            | 3.56                            | 0.581                              | 1.23                               | 0.826                              | 0.564                              | 1.68                               | 5.21                            | 0.586                           |
| Chromium   | <1.42 UJ                           | 1.88                               | 4.29                            | 9.69                               | 1.54                               | 2.52                               | 1.91                               | 1.94                               | 1.99                               | 4.45                            | 7.07                               | 2.53                               | <0.674 UJ                          | 2.37                               | 3.96                            | 4.54                            | 2.1                                | 2.94                               | 1.77                               | 1.95                               | 2.76                               | 4.28                            | 3.57                            |
| Chromium, hexavalent                                       |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Cobalt   | 2.56                               | 2.64                               | 4.26                            | 32.1                               | 3.51                               | 5.62                               | 3.77                               | 4.12                               | 3.66                               | 3.38                            | 21                                 | 7.4                                | 3.08                               | 4.86                               | 3.23                            | 4.47                            | 3.86                               | 6.01                               | 5.56                               | 6.53                               | 5.04                               | 3.76                            | 2.4                             |
| Copper   | 49.2                               | 9.38                               | 55.8                            | 704                                | 26.9                               | 99.3                               | 39.3                               | 4.78                               | 3.92                               | 35.2                            | 359                                | 97.4                               | 2.3                                | 88.6                               | 13.1                            | 131                             | 35                                 | 64.4                               | 22.8                               | 8.22                               | 19.2                               | 6.38                            | 2.75                            |
| Iron   | 6190                               | 11700                              | 11000                           | 25600                              | 9050                               | 10700                              | 7850                               | 14800                              | 14500                              | 10000                           | 21700                              | 8950                               | 7430                               | 374                                | 9310                            | 10300                           | 8780                               | 10800                              | 9180                               | 11000                              | 11100                              | 9380                            | 6670                            |
| Lead   | 32                                 | 21.8                               | 98.8                            | 375                                | 18.7                               | 44.1                               | 35.7                               | 11.6                               | 10.3                               | 109                             | 399                                | 89.5                               | 7.16                               | 44.5                               | 12.9                            | 64.2                            | 20.4                               | 29                                 | 21.5                               | 11.9                               | 17.8                               | 6.58                            | 2.89                            |
| Manganese  |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Mercury  | 0.138 J                            | 0.0463 J                           | 0.139 J                         | 0.116 J                            | 0.0169 J                           | 0.119                              | 0.113 J                            | 0.0238 J                           | 0.0276 J                           | 0.126 J                         | 0.0586 J                           | <0.0153                            | <0.0142                            | 0.102 J                            | 0.369                           | 0.361                           | 0.0202 J                           | 0.0546 J                           | 0.0516 J                           | 0.046 J                            | 0.065 J                            | 0.151 J                         | <0.0138                         |
| Molybdenum   | 1.32 J                             | 1.77 J                             | 4.21                            | 65                                 | 2.42                               | 4.64                               | 1.86                               | 1.77 J                             | 1.31 J                             | 2.76                            | 42.7                               | 7.45                               | 0.597 J                            | 5.2                                | 0.725 J                         | 8.3                             | 4.65                               | 2.13                               | 1.04 J                             | 0.659 J                            | 1.95                               | 0.582 J                         | 0.36 J                          |
| Nickel   | 3.77                               | 3.6                                | 4.46                            | 15.2                               | 2.96                               | 7.33                               | 5.49                               | 5.88                               | 6.44                               | 4.11                            | 9.84                               | 4.15                               | 5.36                               | 5.61                               | 3.94                            | 4.61                            | 3.04                               | 6.29                               | 7.64                               | 10.9                               | 6.72                               | 4.6                             | 3.02                            |
| Selenium   | <0.361 UJ                          | <0.197                             | 0.27 J                          | 2.87                               | <0.177                             | <0.691 UJ                          | <0.429 UJ                          | 0.317 J                            | <0.199                             | 0.415 J                         | 1.79                               | 0.213 J                            | <0.181 UJ                          | <0.192 UJ                          | 0.367 J                         | 0.67 J                          | 0.314 J                            | 0.482 J                            | <0.311 UJ                          | <0.331 UJ                          | 0.352 J                            | 0.462 J                         | 0.57 J                          |
| Silver   | <0.114                             | <0.11                              | 0.128 J                         | 2.33                               | <0.0985                            | <0.104                             | <0.0929                            | <0.117                             | <0.111                             | 0.165 J                         | 1.83                               | 0.206 J                            | <0.0916                            | <0.106                             | <0.104                          | 0.317 J                         | <0.105                             | <0.102                             | <0.0942                            | <0.0936                            | <0.0941                            | <0.115                          | <0.11                           |
| Thallium   |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Zinc   | 54.6                               | 29.9                               | 299                             | 1880                               | 47.4                               | 158                                | 74.7                               | 53.4                               | 45.8                               | 246                             | 2280                               | 600                                | 23.8                               | 175                                | 119                             | 211                             | 98.7                               | 93.7                               | 53.1                               | 44                                 | 72.5                               | 107                             | 19                              |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Arsenic  |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Cadmium  |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Chromium   |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Copper   |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Iron   |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Lead   |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Selenium   |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Zinc   |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| <b>VOCs (mg/kg)</b>  |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Benzene  |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Ethylbenzene   |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Toluene  |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Total Xylenes  |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| <b>TPH (mg/kg)</b>   |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| C6-C12   |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Over C12-C28   |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Over C28-C35   |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |
| Total Petroleum Hydrocarbons                               |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                 |                                    |                                    |                                    |                                    |                                 |                                 |                                    |                                    |                                    |                                    |                                    |                                 |                                 |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | LF-EX-11-F<br>0 - 0.5<br>6/19/2012 | LF-EX-12-F<br>0 - 0.5<br>6/19/2012 | LF-EX-13-F<br>0 - 0.5<br>6/19/2012 | LF-EX-14-F<br>0 - 0.5<br>6/19/2012 | LF-EX-15<br>0 - 0.5<br>3/1/2012 | LF-EX-16<br>0 - 0.5<br>3/28/2012 | LF-EX-J1-F<br>0 - 0.5<br>6/19/2012 | LF-EX-J2-F<br>0 - 0.5<br>6/19/2012 | LF-EX-J3<br>0 - 0.5<br>4/3/2012 | LF-EX-J4-F<br>0 - 0.5<br>6/19/2012 | LF-EX-J5<br>0 - 0.5<br>2/29/2012 | LF-EX-J6<br>0 - 0.5<br>3/1/2012 | LF-EX-K2<br>0 - 0.5<br>3/28/2012 | LF-EX-K3<br>0 - 0.5<br>4/3/2012 | LF-EX-K4<br>0 - 0.5<br>2/29/2012 | LF-EX-K5<br>0 - 0.5<br>3/1/2012 | LF-EX-K6<br>0 - 0.5<br>3/28/2012 | LF-EX-L2<br>0 - 0.5<br>3/28/2012 | LF-EX-L3<br>0 - 0.5<br>3/1/2012 | LF-EX-L4<br>0 - 0.5<br>2/29/2012 | LF-EX-L5<br>0 - 0.5<br>3/1/2012 | LF-EX-M2<br>0 - 0.5<br>3/28/2012 | LF-EX-M3<br>0 - 0.5<br>3/1/2012 |
|--|------------------------------------|------------------------------------|------------------------------------|------------------------------------|---------------------------------|----------------------------------|------------------------------------|------------------------------------|---------------------------------|------------------------------------|----------------------------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|----------------------------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|---------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Antimony   | 1.27 J                             | 0.624 J                            | <0.232                             | 0.696 J                            | 1.64 J                          | 5.16                             | 0.702 J                            | 0.387 J                            | <0.273                          | 1.13 J                             | 4.32                             | 3.03                            | 1.5 J                            | 0.493 J                         | 4.82                             | 3.61                            | 3.75                             | 1.11 J                           | 2.61                            | 2.78                             | 2.6                             | 1.04 J                           | 2.63                            |
| Arsenic  | 10.1                               | 10.8                               | 8.82                               | 21.3                               | 28.9                            | 30.7                             | 4.51                               | 10.8                               | 17.7                            | 26.2                               | 40                               | 23.7                            | 68.7                             | 19.3                            | 44.5                             | 19.4                            | 26.6                             | 22                               | 31.3                            | 20.5                             | 19.6                            | 16.4                             | 36.2                            |
| Barium   | 215                                | 230                                | 136                                | 128                                | 67.8                            | 70.4                             | 200                                | 144                                | 62.9                            | 99.9                               | 110                              | 74.8                            | 90.3                             | 68                              | 129                              | 54.3                            | 103                              | 84.7                             | 53.8                            | 60                               | 78.2                            | 60.1                             | 125                             |
| Cadmium  | 1.13                               | 1.28                               | 0.919                              | 3.34                               | 0.748                           | 0.554                            | 0.419 J                            | 0.906                              | 0.357 J                         | 5.61                               | 2.16                             | 3.14                            | 1.86                             | 0.628                           | 6.64                             | 0.972                           | 11.3                             | 1.25                             | 24.1                            | 1.23                             | 0.597                           | 1.18                             | 2.7                             |
| Chromium   | 4.77                               | 5.68                               | 3.33                               | 3.68                               | 4.32                            | 2.7                              | 5.16                               | 8.01                               | 3.24                            | 4.86                               | 4.3                              | 3.85                            | 4.8                              | 4.01                            | 4.7                              | 3.76                            | 4.64                             | 5.25                             | 3.59                            | 4.54                             | 4.65                            | 3.58                             | 4.85                            |
| Chromium, hexavalent                                       |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Cobalt   | 6.19                               | 5.79                               | 5                                  | 6.41                               | 3.47                            | 2.29                             | 3.74                               | 7.35                               | 2.97                            | 4.2                                | 3.92                             | 3.53                            | 2.77                             | 2.8                             | 4.36                             | 3.14                            | 4.49                             | 3.7                              | 3.32                            | 3.6                              | 3.46                            | 2.68                             | 3.46                            |
| Copper   | 68.4                               | 17.7                               | 14.6                               | 46.5                               | 6.54                            | 6.5                              | 8.53                               | 19.7                               | 3.05                            | 70.2                               | 47.8                             | 25.5                            | 50.9                             | 14                              | 80.4                             | 11.7                            | 68.5                             | 40.2                             | 19.3                            | 14.1                             | 10.5                            | 47.6                             | 42.8                            |
| Iron   | 7390                               | 12400                              | 9960                               | 9760                               | 11200                           | 4850                             | 6510                               | 16800                              | 13900                           | 9590                               | 11200                            | 11500                           | 8610                             | 10900                           | 12000                            | 10400                           | 11800                            | 9270                             | 7520                            | 9520                             | 10200                           | 6990                             | 9930                            |
| Lead   | 45.8                               | 10.8                               | 13.7                               | 28.9                               | 8.07                            | 5.43                             | 4.64                               | 13                                 | 90.3                            | 43.9                               | 141                              | 42.8                            | 132                              | 72.2                            | 235                              | 12.2                            | 78.4                             | 36.5                             | 10.8                            | 17.8                             | 21.5                            | 31.4                             | 156                             |
| Manganese  |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Mercury  | <0.0139                            | <0.0136                            | 0.0271 J                           | 0.0917 J                           | <0.0157                         | 0.126 J                          | <0.015                             | 0.0336 J                           | 0.0176 J                        | 0.105 J                            | 0.175                            | 0.147 J                         | 0.151 J                          | 0.0584 J                        | 0.292                            | 0.312                           | 0.117 J                          | 0.104 J                          | 0.13 J                          | 0.295                            | 0.0777 J                        | 0.0752 J                         | 0.365                           |
| Molybdenum   | 6.45                               | 3.54                               | 2.66                               | 4.62                               | 0.976 J                         | 0.329 J                          | 0.895 J                            | 1.93 J                             | 0.5 J                           | 3.2                                | 3.75                             | 2.59                            | 10.4                             | 1.71 J                          | 5.44                             | 0.813 J                         | 9.53                             | 2.79                             | 0.553 J                         | 0.905 J                          | 1.1 J                           | 3.83                             | 2.81                            |
| Nickel   | 5.8                                | 22.2                               | 13.4                               | 8.01                               | 4.4                             | 2.93                             | 6.09                               | 15.1                               | 3.26                            | 6.09                               | 3.52                             | 3.8                             | 3.65                             | 3.47                            | 4.16                             | 3.23                            | 4.95                             | 4.07                             | 3.4                             | 3.57                             | 3.8                             | 2.98                             | 3.83                            |
| Selenium   | 0.698 J                            | 1.61                               | <1.02 UJ                           | <0.37 UJ                           | <0.242                          | 0.503 J                          | 0.883                              | 0.434 J                            | 0.679 J                         | <0.802 UJ                          | <0.444 UJ                        | <0.445 UJ                       | 0.375 J                          | 0.483 J                         | <0.499 UJ                        | <0.29 UJ                        | 0.358 J                          | 0.568 J                          | <0.261 UJ                       | <0.225                           | <0.193                          | 0.402 J                          | <0.581 UJ                       |
| Silver   | 0.221 J                            | <0.106                             | <0.0955                            | <0.108                             | <0.135                          | <0.102                           | <0.097                             | <0.11                              | <0.113                          | 0.125 J                            | <0.11                            | <0.106                          | 0.575                            | <0.0994                         | 0.248 J                          | <0.113                          | 0.14 J                           | <0.0995                          | <0.101                          | <0.125                           | <0.107                          | 0.114 J                          | 0.301 J                         |
| Thallium   |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Zinc   | 256                                | 55                                 | 42.1                               | 152                                | 37                              | 20.8                             | 24.5                               | 55.9                               | 348                             | 167                                | 384                              | 116                             | 150                              | 162                             | 539                              | 38.4                            | 305                              | 94.9                             | 188                             | 69.6                             | 32.3                            | 83.8                             | 315                             |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Arsenic  |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Cadmium  |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Chromium   |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Copper   |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Iron   |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Lead   |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Selenium   |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Zinc   |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| <b>VOCs (mg/kg)</b>  |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Benzene  |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Ethylbenzene   |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Toluene  |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Total Xylenes  |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| <b>TPH (mg/kg)</b>   |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| C6-C12   |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Over C12-C28   |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Over C28-C35   |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |
| Total Petroleum Hydrocarbons                               |                                    |                                    |                                    |                                    |                                 |                                  |                                    |                                    |                                 |                                    |                                  |                                 |                                  |                                 |                                  |                                 |                                  |                                  |                                 |                                  |                                 |                                  |                                 |

Notes are included on Page 20.



**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | LF-EX-M4<br>0 - 0_5<br>3/1/2012 | LF-EX-M5<br>0 - 0_5<br>3/28/2012 | LF-EX-N2<br>0 - 0_5<br>3/28/2012 | LF-EX-N3<br>0 - 0_5<br>3/28/2012 | LF-EX-N4<br>0 - 0_5<br>3/28/2012 | LF-EX-N4<br>0 - 0_5<br>3/28/2012 | LF-EX-P3<br>0 - 0_5<br>3/28/2012 | LF-EX-XA5<br>0 - 0_5<br>4/2/2012 | LFTP-A<br>1 - 1_5<br>10/31/2011 | LFTP-A<br>2 - 2_5<br>10/31/2011 | LFTP-A<br>3 - 3_5<br>10/31/2011 | LFTP-A<br>4 - 4_5<br>10/31/2011 | LFTP-B<br>2 - 2_5<br>10/31/2011 | LFTP-B<br>3 - 3_5<br>10/31/2011 | LFTP-B<br>4 - 4_5<br>10/31/2011 | LFTP-B<br>5 - 5_5<br>10/31/2011 | LFTP-C<br>1 - 1_5<br>10/31/2011 | LFTP-C<br>3 - 3_5<br>10/31/2011 | LFTP-D<br>1 - 1_5<br>10/31/2011 | LFTP-D<br>2 - 2_5<br>10/31/2011 | LFTP-D<br>3 - 3_5<br>10/31/2011 | LFTP-D<br>4 - 4_5<br>10/31/2011 | LFTP-E<br>0_5 - 1<br>10/31/2011 |
|--|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Antimony   | 1.33                            | 3.28                             | 1.75 J                           | 4.24                             | 2.49                             | 3.42                             | 2.16                             | 1.18 J                           | 2.52                            | 0.699 J                         | 0.744 J                         | 0.65 J                          | 10                              | 4.07                            | 7.43                            | 2.82                            | 15.8                            | 10.9                            | 2.43                            | 0.324 J                         | <0.241                          | 0.463 J                         | 14.8                            |
| Arsenic  | 18.5                            | 23.5                             | 30.8                             | 30.4                             | 22.7                             | 25.3                             | 27.7                             | 8.74                             | 18.1                            | 6.22                            | 6.48                            | 6.13                            | 23.8                            | 13.7                            | 21.5                            | 12.3                            | 56.2                            | 40.7                            | 22.3                            | 9.51                            | 7.27                            | 8.98                            | 40.3                            |
| Barium   | 60.2                            | 62.5                             | 87.1                             | 106                              | 132                              | 139                              | 63.7                             | 94.3 J                           | 183                             | 45                              | 55.9                            | 56.5                            | 166                             | 225                             | 156                             | 172                             | 539                             | 382                             | 290                             | 64.9                            | 205                             | 140                             | 318                             |
| Cadmium  | 0.42                            | 1.2                              | 1.79                             | 3.41                             | 0.767                            | 0.814                            | 1.27                             | 1.07                             | 0.764                           | 0.205 J                         | 0.294 J                         | 0.279 J                         | 0.878                           | 0.593                           | 1.08                            | 0.668                           | 3.91                            | 2.88                            | 0.455 J                         | 0.436 J                         | 0.284 J                         | 0.354 J                         | 2.23                            |
| Chromium   | 1.99                            | 4.4                              | 5.5                              | 5.49                             | 4.33                             | 4.97                             | 2.81                             | 5.88                             | 6.91                            | 3.49                            | 4.59                            | 3.58                            | 6.87                            | 6.62                            | 8.36                            | 7.1                             | 10.1                            | 8.83                            | 9.86                            | 12                              | 7.33                            | 7.94                            | 9.9                             |
| Chromium, hexavalent                                       |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Cobalt   | 2.7                             | 3.75                             | 4.02                             | 4.53                             | 3.95                             | 3.63                             | 2.74                             | 5.17                             | 4.27                            | 2.43                            | 3.17                            | 2.82                            | 6.32                            | 5.24                            | 8.89                            | 6.47                            | 16.1                            | 11.3                            | 4.23                            | 4.63                            | 3.32                            | 3.67                            | 15.6                            |
| Copper   | 22.1                            | 38.1                             | 49.8                             | 54.2                             | 25.1                             | 30.7                             | 14.7                             | 54.3                             | 64.9 J                          | 6.93 J                          | 22.8 J                          | 9.77 J                          | 59.5 J                          | 60.8 J                          | 127 J                           | 43.3 J                          | 303 J                           | 253 J                           | 58 J                            | 18 J                            | 8.93 J                          | 11.5 J                          | 348 J                           |
| Iron   | 4640                            | 8160                             | 10100                            | 12100                            | 8910                             | 10400                            | 6300                             | 8660                             | 10300                           | 5970                            | 7460                            | 5740                            | 9060                            | 8070                            | 10900                           | 10100                           | 14200                           | 12700                           | 14400                           | 17100                           | 10900                           | 11000                           | 12000                           |
| Lead   | 25.9                            | 41.6                             | 48.1                             | 53.9                             | 40 J                             | 96.2 J                           | 15.1                             | 35.8                             | 57.6 J                          | 3.12 J                          | 30.4 J                          | 5.53 J                          | 22.3 J                          | 17.8 J                          | 41.4 J                          | 14.4 J                          | 131 J                           | 104 J                           | 14.5 J                          | 8.92 J                          | 3.61 J                          | 7.82 J                          | 107 J                           |
| Manganese  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Mercury  | 0.126 J                         | 0.154                            | 0.152                            | 0.457                            | 0.0964 J                         | 0.103 J                          | 0.128 J                          | 0.0256 J                         | 0.194                           | 0.036 J                         | 0.0254 J                        | 0.0211 J                        | 0.0137 J                        | 0.0173 J                        | 0.0232 J                        | 0.0215 J                        | 0.0961 J                        | 0.0243 J                        | 0.0472 J                        | 0.025 J                         | 0.0142 J                        | 0.0243 J                        | 0.238                           |
| Molybdenum   | 2.48                            | 2.41                             | 5.12                             | 3.87                             | 2.03                             | 2.45                             | 1.08 J                           | 4.52                             | 2.17                            | 0.2 J                           | 1.23 J                          | 0.282 J                         | 6.18                            | 6.15                            | 18.4                            | 6.38                            | 34.2                            | 27.9                            | 1.78 J                          | 1.21 J                          | 1.16 J                          | 1.72 J                          | 16.9                            |
| Nickel   | 3.03                            | 3.93                             | 4.54                             | 4.83                             | 4.07                             | 4.09                             | 3.09                             | 5.9                              | 5.22                            | 3.65                            | 4.4                             | 3.77                            | 6.56                            | 5.42                            | 6.99                            | 7.31                            | 10.9                            | 8.09                            | 6.84                            | 6.69                            | 5.32                            | 6.05                            | 9.19                            |
| Selenium   | 0.207 J                         | 0.268 J                          | 0.27 J                           | <0.216                           | 0.187 J                          | 0.391 J                          | <0.195                           | 0.454 J                          | <1.73 UJ                        | <0.677 UJ                       | <0.649 UJ                       | <0.674 UJ                       | <0.747 UJ                       | <0.675 UJ                       | <0.809 UJ                       | <1.07 UJ                        | 3.3                             | 2.6                             | <2.23 UJ                        | <0.86 UJ                        | <0.945 UJ                       | <1.01 UJ                        | <1.33 UJ                        |
| Silver   | 0.121 J                         | <0.0947                          | 0.148 J                          | 0.202 J                          | <0.0909                          | 0.149 J                          | <0.109                           | <0.108                           | 0.68                            | <0.1                            | <0.0939                         | <0.1                            | <0.111                          | <0.116                          | 0.178 J                         | <0.121                          | 0.693                           | 0.51                            | <0.112                          | <0.117                          | <0.0992                         | <0.115                          | 1.47                            |
| Thallium   |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Zinc   | 81.3                            | 114                              | 157                              | 161                              | 112 J                            | 174 J                            | 39.1                             | 145                              | 262                             | 13.3                            | 164                             | 20.6                            | 178                             | 148                             | 360                             | 128                             | 782                             | 612                             | 53.5                            | 35.8                            | 16.2                            | 29.3                            | 639                             |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Arsenic  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Cadmium  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Chromium   |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Copper   |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Iron   |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Lead   |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Selenium   |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Zinc   |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| <b>VOCs (mg/kg)</b>  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Benzene  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Ethylbenzene   |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Toluene  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Total Xylenes  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| <b>TPH (mg/kg)</b>   |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| C6-C12   |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Over C12-C28   |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Over C28-C35   |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Total Petroleum Hydrocarbons                               |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | LFTP-E<br>1_5 - 2<br>10/31/2011 | LFTP-E<br>2_5 - 3<br>10/31/2011 | LFTP-E<br>3_5 - 4<br>10/31/2011 | PBA-CS-01<br>0 - 0_5<br>12/8/2011 | PBA-CS-02<br>0 - 0_5<br>12/8/2011 | PBA-SB02<br>43 - 45<br>6/9/2011 | PBA-SB03<br>2 - 4<br>5/31/2011 | PBA-SB06<br>15 - 17<br>6/3/2011 | PBA-SB06<br>28 - 30<br>6/3/2011 | PBA-SB06<br>33 - 35<br>6/3/2011 | PBA-SB07<br>15 - 16<br>6/16/2011 | PBA-SB08<br>19 - 20<br>6/15/2011 | PBA-SB08<br>24 - 25<br>6/15/2011 | PBA-SB08<br>34 - 35<br>6/15/2011 | PBA-SB10<br>15 - 17<br>6/15/2011 | PBA-SB10<br>32 - 34<br>6/15/2011 | PBA-SB13<br>42 - 44<br>6/13/2011 | SL-00<br>0 - 0_5<br>5/10/2012 | SL-03<br>0 - 0_5<br>5/8/2012 | SL-04<br>0 - 0_5<br>5/10/2012 | SL-04<br>0 - 0_5<br>5/8/2012 | SL-05<br>0 - 0_5<br>5/8/2012 | SL-06<br>0 - 0_5<br>5/8/2012 |
|--|---------------------------------|---------------------------------|---------------------------------|-----------------------------------|-----------------------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|------------------------------|------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                 |                                 |                                 |                                   |                                   |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Antimony   | 2.89                            | 8.9                             | 3.02                            |                                   |                                   | <0.276                          | 18.1                           | 2.87                            | 0.438 J                         | <0.305                          | 0.447 J                          | 0.432 J                          | 0.779 J                          | <0.245                           | 0.686 J                          | <0.317                           | <0.275                           | 168                           | 127                          | 15.1                          | 18.8                         | 92.2                         | 8.7                          |
| Arsenic  | 12.9                            | 16.7                            | 12.3                            |                                   |                                   | 9.78                            | 42.1 J                         | 37.5 J                          | 16.4 J                          | 7.97 J                          | 12.5                             | 18.2                             | 12.1                             | 9.17                             | 18.9                             | 9.08                             | 19                               | 677                           | 165                          | 82 J                          | 193 J                        | 497                          | 109                          |
| Barium   | 152                             | 336                             | 241                             |                                   |                                   | 36.2                            | 246                            | 91.1                            | 41.4                            | 28.6                            | 73.7                             | 77.7                             | 93.8                             | 26.4                             | 81.5                             | 53.9                             | 33.3 J                           | 693                           | 24.1                         | 32.9 J                        | 95.9 J                       | 354                          | 618                          |
| Cadmium  | 0.219 J                         | 0.874                           | 0.632                           |                                   |                                   | 0.919                           | 2.88                           | 5.6                             | 4.42                            | 0.451 J                         | 0.216 J                          | 3.05                             | 3.32                             | 0.937                            | 25.3                             | 2.02                             | 0.321 J                          | 163                           | 10.4                         | 25.7 J                        | 48.3 J                       | 47.3                         | 7.68                         |
| Chromium   | 3.04                            | 7.23                            | 7.13                            |                                   |                                   | 15.2                            | 17.9                           | 6.77                            | 5.22                            | 5.94                            | 6.12                             | 5.5                              | 4.98                             | 4.21                             | 4.68                             | 6.24                             | 4.07                             | 19.5                          | 36.4                         | 23.5 J                        | 33.7 J                       | 22.2                         | 6.82                         |
| Chromium, hexavalent                                       |                                 |                                 |                                 |                                   |                                   |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Cobalt   | 2.57                            | 10.4                            | 7.61                            |                                   |                                   | 11.6                            | 17.7                           | 3.56                            | 2.46                            | 2.21                            | 2.84                             | 4.5                              | 2.86                             | 2.59                             | 4.48                             | 3.4                              | 3.39                             | 34.2                          | 79.7                         | 44.5                          | 56.6                         | 50.7                         | 70.2                         |
| Copper   | 5.78 J                          | 25.9 J                          | 13.7 J                          |                                   |                                   | 33.3 J                          | 401                            | 36.6                            | 6.4                             | 2.51                            | 8.79                             | 29.8                             | 8.01                             | 7.7                              | 10.2                             | 13.2                             | 9.56                             | 4000                          | 2180                         | 34600 J                       | 12400 J                      | 2460                         | 1400                         |
| Iron   | 5790                            | 11600                           | 10100                           |                                   |                                   | 20400 J                         | 22900                          | 11500                           | 9030                            | 8750                            | 8330                             | 13800                            | 8230                             | 9630                             | 12100                            | 12600                            | 12000                            | 76200                         | 73200                        | 188000 J                      | 119000 J                     | 63100                        | 121000                       |
| Lead   | 3.21 J                          | 16.7 J                          | 6.51 J                          |                                   |                                   | 25.4 J                          | 163                            | 42.1                            | 12.4                            | 3.76                            | 4.25                             | 10.8                             | 3.66                             | 3.32                             | 4.45                             | 5.97                             | 4.84                             | 3790                          | 672                          | 645 J                         | 957 J                        | 2010                         | 1910                         |
| Manganese  |                                 |                                 |                                 |                                   |                                   |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Mercury  | <0.0108                         | 0.0363 J                        | 0.0348 J                        |                                   |                                   | 0.0761 J                        | 0.0214 J                       | 0.0937 J                        | 0.0294 J                        | 0.111 J                         | <0.0126                          | 0.131 J                          | <0.0175                          | <0.0147                          | <0.0121                          | <0.0124                          | <0.0129                          | 3.42                          | <0.017                       | 0.042 J                       | 0.084 J                      | 0.143 J                      | 0.0386 J                     |
| Molybdenum   | 0.278 J                         | 1.82 J                          | 1.04 J                          |                                   |                                   | 1.2 J                           | 43.1 J                         | 2.88 J                          | 1.3 J                           | 0.557 J                         | 0.285 J                          | 0.872 J                          | 0.282 J                          | 0.343 J                          | 0.581 J                          | 1.39 J                           | 0.673 J                          | 81.3                          | 395                          | 582 J                         | 904 J                        | 168                          | 67.5                         |
| Nickel   | 3.26                            | 9.64                            | 8.01                            |                                   |                                   | 25.4                            | 9.67                           | 4.18                            | 2.84                            | 3                               | 4.26                             | 4.6                              | 4.03                             | 3.22                             | 8.04                             | 5.43                             | 3.59                             | 16.9                          | 17.8                         | 118 J                         | 86 J                         | 21.6                         | 11.4                         |
| Selenium   | 0.428 J                         | 0.853 J                         | <0.846 UJ                       |                                   |                                   | 0.339 J                         | 2.29                           | 0.864 J                         | 0.291 J                         | <0.226                          | <0.22                            | <0.207                           | <0.205                           | 0.188 J                          | <0.212                           | <0.235                           | <0.204                           | 18.5                          | 1.49                         | 17.2 J                        | 12.3 J                       | 11.3                         | 8.29                         |
| Silver   | <0.0995                         | <0.121                          | <0.12                           |                                   |                                   | 0.283 J                         | 0.985                          | <0.112                          | <0.124                          | <0.126                          | <0.122                           | <0.115                           | <0.114                           | <0.101                           | <0.118                           | <0.131                           | <0.113                           | 37.6                          | 4.95                         | 29                            | 23.9                         | 11.2                         | 4.7                          |
| Thallium   |                                 |                                 |                                 |                                   |                                   |                                 | <0.116 UJ                      | 1.19 J                          | 0.368 J                         | <0.136 UJ                       | <0.132                           | 0.773 J                          | 0.639 J                          | 0.493 J                          | 0.48 J                           | 0.256 J                          | 0.74 J                           |                               |                              |                               |                              |                              |                              |
| Zinc   | 11.1                            | 90.1                            | 29.1                            |                                   |                                   | 77.7 J                          | 1710                           | 166                             | 72.5                            | 18.6                            | 19.6                             | 82.8                             | 68.5                             | 29.8                             | 164                              | 43.1                             | 20.3                             | 12100                         | 5170                         | 8840 J                        | 13900 J                      | 9380                         | 16800                        |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                 |                                 |                                 |                                   |                                   |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Arsenic  |                                 |                                 |                                 |                                   |                                   |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Cadmium  |                                 |                                 |                                 |                                   |                                   |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Chromium   |                                 |                                 |                                 |                                   |                                   |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Copper   |                                 |                                 |                                 |                                   |                                   |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Iron   |                                 |                                 |                                 |                                   |                                   |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Lead   |                                 |                                 |                                 |                                   |                                   |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Selenium   |                                 |                                 |                                 |                                   |                                   |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Zinc   |                                 |                                 |                                 |                                   |                                   |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| <b>VOCs (mg/kg)</b>  |                                 |                                 |                                 |                                   |                                   |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Benzene  |                                 |                                 |                                 | ND                                | ND                                |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Ethylbenzene   |                                 |                                 |                                 | ND                                | ND                                |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Toluene  |                                 |                                 |                                 | ND                                | ND                                |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Total Xylenes  |                                 |                                 |                                 | ND                                | ND                                |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| <b>TPH (mg/kg)</b>   |                                 |                                 |                                 |                                   |                                   |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| C6-C12   |                                 |                                 |                                 | <11.4                             | <10.2                             |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Over C12-C28   |                                 |                                 |                                 | <11.4                             | <10.2                             |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Over C28-C35   |                                 |                                 |                                 | <11.4                             | <10.2                             |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |
| Total Petroleum Hydrocarbons                               |                                 |                                 |                                 | <11.4                             | <10.2                             |                                 |                                |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                              |                               |                              |                              |                              |

Notes are included on Page 20.

**Table F-3**  
**Soil Analytical Data - Parker Brothers Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SL-07<br>0 - 0.5<br>5/8/2012 | SL-08<br>0 - 0.5<br>5/10/2012 | SL-10<br>0 - 0.5<br>5/10/2012 | TP-13<br>3 - 3.5<br>5/2/2011 | TP13-02S<br>9 - 9<br>5/2/2011 | TP16-02S<br>5 - 5<br>4/28/2011 | TP19-02S<br>5 - 5<br>4/28/2011 | TP20-02S<br>11 - 11<br>4/28/2011 | TP-28<br>6 - 6.5<br>5/3/2011 | TP-5<br>3 - 3.5<br>5/2/2011 | TP5-02S<br>9 - 9<br>5/2/2011 | TPBY1<br>12 - 12<br>5/4/2011 | TPBY-2<br>13 - 13.5<br>5/4/2011 | TPBY-3<br>3 - 3.5<br>5/4/2011 | TPBY4-01S<br>9 - 9.5<br>5/4/2011 | WWTP-SB01<br>4.5 - 5<br>8/9/2011 | WWTP-SB01<br>9.5 - 10<br>8/9/2011 | ZCP-SB04<br>0.5 - 0.5<br>10/20/2011 | ZCP-SB04<br>1.5 - 1.5<br>10/20/2011 | ZCP-SB04<br>3.5 - 3.5<br>10/20/2011 | ZCP-SB04<br>3.5 - 3.5<br>10/20/2011 | ZCP-SB04<br>5 - 5<br>10/20/2011 |
|--|------------------------------|-------------------------------|-------------------------------|------------------------------|-------------------------------|--------------------------------|--------------------------------|----------------------------------|------------------------------|-----------------------------|------------------------------|------------------------------|---------------------------------|-------------------------------|----------------------------------|----------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------|
| <b>Metals (mg/kg)</b>                                      |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Antimony   | 8.94                         | 35.2                          | 13.4                          | 75.8                         | 10.6                          | 12                             | 2.01                           | 17.2                             | 45.4                         | 66.5                        | 3.56                         | 1410                         | 116                             | 1990                          | 1.93                             | 20.5                             | 13.5                              | 57 J                                | 220                                 | 60.5 J                              | 13.4 J                              | 45.9                            |
| Arsenic  | 86.4                         | 134                           | 157                           | 349                          | 75.2                          | 185                            | 11.6                           | 486                              | 199                          | 384                         | 26.4                         | 4830                         | 618                             | 1670                          | 7.07                             | 63.6                             | 62.2                              | 2240                                | 4020                                | 1970 J                              | 847 J                               | 2170                            |
| Barium   | 155                          | 395                           | 1250                          | 592                          | 318                           | 130                            | 83.6                           | 200                              | 287                          | 700                         | 200                          | 704                          | 140                             | 277                           | 127                              | 1260                             | 1020                              | 938 J                               | 1550                                | 2170                                | 1870                                | 964                             |
| Cadmium  | 60.6                         | 15                            | 40.9                          | 27.5                         | 4.69                          | 13.2                           | 0.855                          | 40.6                             | 7.71                         | 99.6                        | 6.54                         | 1200                         | 103                             | 209                           | 0.807                            | 18.4                             | 13.2                              | 492 J                               | 1490 J                              | 433 J                               | 159 J                               | 301 J                           |
| Chromium   | 14.8                         | 15.9                          | 143                           | 38.9 J                       | 5.77                          | 8.6                            | 5.85                           | 11.9                             | 28.2 J                       | 29.5 J                      | 7.69                         | 68.4 J                       | 10.9 J                          | 46.9 J                        | 8 J                              | 74.3                             | 51                                | 7.97 J                              | 15.3 J                              | 8.94 J                              | 5.86 J                              | 10.5 J                          |
| Chromium, hexavalent                                       |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   | <0.302 UJ                           | <0.282 UJ                           | <0.269 UJ                           | <0.71                               | <0.294 UJ                       |
| Cobalt   | 83.8                         | 57.7                          | 365                           | 71.6                         | 5.7                           | 28                             | 7.62                           | 26.4                             | 40.8                         | 135                         | 5.28                         | 74.8                         | 40                              | 512                           | 5.01                             | 144                              | 198                               | 30.9 J                              | 44.1                                | 25.1 J                              | 6.43 J                              | 28.4                            |
| Copper   | 1400                         | 1220                          | 3600                          | 3330                         | 215                           | 457                            | 65.2                           | 853                              | 4170                         | 5010                        | 164                          | 8160                         | 5620                            | 279000                        | 537                              | 2640                             | 2100                              | 2760                                | 3350                                | 2150 J                              | 672 J                               | 2330                            |
| Iron   | 91000                        | 66900                         | 212000                        | 114000                       | 24800                         | 22100                          | 12300                          | 28900                            | 147000                       | 127000                      | 13500                        | 205000                       | 59400                           | 173000                        | 13400                            | 208000                           | 187000                            | 204000 J                            | 187000                              | 212000 J                            | 76600 J                             | 256000                          |
| Lead   | 627                          | 392                           | 397                           | 2190                         | 887                           | 290                            | 32.5                           | 1240                             | 3480                         | 1440                        | 258                          | 24400                        | 8680                            | 13500                         | 18.8                             | 200                              | 64.2                              | 6260 J                              | 11900                               | 13200 J                             | 4690 J                              | 13200                           |
| Manganese  |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Mercury  | 0.0746 J                     | 0.422                         | 0.371                         | 0.425 J                      | 0.179 J                       | 0.0558 J                       | <0.0129 UJ                     | 0.97 J                           | 0.075 J                      | 0.368 J                     | 0.228 J                      | 4 J                          | 1.9 J                           | 4.17 J                        | 0.0119 J                         | 0.4                              | 0.0371 J                          | 0.284 J                             | 0.494 J                             | 0.167 J                             | 0.129                               | 0.0433 J                        |
| Molybdenum   | 133                          | 175                           | 322                           | 325                          | 12.4                          | 27.2                           | 7.6                            | 34.8                             | 238                          | 216                         | 4.11                         | 125                          | 96.3                            | 233                           | 2.62                             | 731                              | 810                               | 245 J                               | 338 J                               | 203 J                               | 60 J                                | 156 J                           |
| Nickel   | 22.1                         | 15                            | 35                            | 21.5                         | 3.89                          | 16.1                           | 7.64                           | 15.5                             | 36.7                         | 57.5                        | 8.04                         | 13.9                         | 16.9                            | 658                           | 8.1                              | 15.4                             | 26                                | 5.99 J                              | 8.73 J                              | 3.55 J                              | 1.41 J                              | 5.03 J                          |
| Selenium   | 1.92                         | 6.29                          | 57.8                          | 16 J                         | 1.13                          | 3.74                           | 0.792 J                        | 6.19                             | 3.27 J                       | 21.5 J                      | 0.668 J                      | 55.2 J                       | 12.9 J                          | 87.7 J                        | 0.648 J                          | 51.4                             | 46.3                              | 7.41 J                              | 19.7                                | 8.2 J                               | 4.16                                | 7.33 J                          |
| Silver   | 2.93                         | 3.83                          | 11.7                          | 7.63 J                       | 1.78                          | 0.781                          | <0.111                         | 2.66                             | 5.62 J                       | 11.9 J                      | 0.762                        | 55.2 J                       | 43.1 J                          | 116 J                         | 0.536 J                          | 5.69                             | 2.25                              | 12.5                                | 13.4                                | 14.3 J                              | 5.05 J                              | 22.8                            |
| Thallium   |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Zinc   | 3040                         | 5070                          | 14700                         | 25500                        | 3770                          | 1620                           | 199                            | 3270                             | 15400                        | 19500                       | 713                          | 116000                       | 5290                            | 34200                         | 53.9                             | 5110                             | 3690                              | 29600                               | 18700                               | 32300 J                             | 14300 J                             | 39800                           |
| <b>Metals (mg/kg)<sup>1</sup></b>                          |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Arsenic  |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Cadmium  |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Chromium   |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Copper   |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Iron   |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Lead   |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Selenium   |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Zinc   |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| <b>VOCs (mg/kg)</b>  |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Benzene  |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Ethylbenzene   |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Toluene  |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Total Xylenes  |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| <b>TPH (mg/kg)</b>   |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| C6-C12   |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Over C12-C28   |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Over C28-C35   |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |
| Total Petroleum Hydrocarbons                               |                              |                               |                               |                              |                               |                                |                                |                                  |                              |                             |                              |                              |                                 |                               |                                  |                                  |                                   |                                     |                                     |                                     |                                     |                                 |

**Notes:**

<sup>1</sup> Samples analysed using field x-ray diffraction methods  
ft bgs = sample interval in feet below ground surface  
mg/kg = milligram per kilogram  
ND = Non-Detect  
SU = Standard (pH) Units  
SVOC = Semivolatile Organic Compound  
VOC = Volatile Organic Compound

**Laboratory Qualifiers:**

J = Estimated value reported. In the majority of cases this represents a value less than the contract required quantitation limit, but greater than the method detection limit.  
U = Compound was analyzed for but not detected. The value shown in the laboratory method detection limit.

**Table F-4**  
**Soil Analytical Data - Acid Plant Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH1-1<br>0.5 - 1.5<br>8/31/1999 | BH1-1<br>1.5 - 2.5<br>8/31/1999 | BH1-1<br>10 - 12<br>8/31/1999 | BH1-1<br>15 - 17<br>8/31/1999 | BH1-1<br>20 - 22<br>8/31/1999 | BH1-1<br>25 - 27<br>8/31/1999 | BH1-1<br>30 - 32<br>9/1/1999 | BH1-1<br>35 - 37<br>9/1/1999 | BH1-1<br>40 - 42<br>9/1/1999 | BH1-1<br>45 - 47<br>9/1/1999 | BH1-2<br>0 - 1<br>9/1/1999 | BH1-2<br>1 - 2<br>9/1/1999 | BH1-2<br>10 - 12<br>9/2/1999 | BH1-2<br>15 - 17<br>9/2/1999 | BH1-2<br>2 - 3<br>9/1/1999 | BH1-2<br>20 - 22<br>9/2/1999 | BH1-2<br>25 - 27<br>9/2/1999 | BH1-2<br>3 - 4<br>9/1/1999 | BH1-2<br>30 - 32<br>9/2/1999 | BH1-2<br>35 - 37<br>9/2/1999 | BH1-2<br>4 - 5<br>9/1/1999 |  |
|--|---------------------------------|---------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|----------------------------|----------------------------|------------------------------|------------------------------|----------------------------|------------------------------|------------------------------|----------------------------|------------------------------|------------------------------|----------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Antimony   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Arsenic  |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Barium   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Cadmium  |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Chromium   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Chromium, hexavalent                                       |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Cobalt   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Copper   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Iron   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Lead   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Mercury  |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Molybdenum   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Nickel   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Selenium   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Silver   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Zinc   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Arsenic  | 30                              | 200                             | 17                            | 10                            | 20                            | 16                            | 48                           | 33                           | 16                           | 18                           | 720                        | 77                         | <10                          | 12                           | 16                         | 23                           | 12                           | 30                         | 48                           | 24                           | 12                         |  |
| Cadmium  | <10                             | 58                              | <10                           | <10                           | <10                           | 20                            | <10                          | <10                          | <10                          | <10                          | 590                        | 160                        | <10                          | <10                          | <10                        | <10                          | <10                          | <10                        | <10                          | <10                          | <10                        |  |
| Chromium   | <80                             | <80                             | <80                           | <80                           | <80                           | 87                            | <80                          | <80                          | <80                          | <80                          | <80                        | <80                        | <80                          | <80                          | <80                        | <80                          | <80                          | <80                        | <80                          | <80                          | <80                        |  |
| Copper   | 100                             | 5500                            | 39                            | <20                           | 23                            | 27                            | <20                          | 23                           | 49                           | 23                           | 3100                       | 250                        | <20                          | <20                          | 93                         | 50                           | <20                          | 160                        | 56                           | <20                          | 99                         |  |
| Iron   | 23000                           | 24000                           | 22000                         | 24000                         | 27000                         | 32000                         | 41000                        | 36000                        | 25000                        | 28000                        | 22000                      | 20000                      | 24000                        | 22000                        | 20000                      | 32000                        | 23000                        | 23000                      | 39000                        | 30000                        | 21000                      |  |
| Lead   | 62                              | 1600                            | <10                           | <10                           | <10                           | <10                           | 11                           | 16                           | <10                          | <10                          | 710                        | 190                        | <10                          | <10                          | 100                        | 11                           | <10                          | 140                        | <10                          | 11                           | 46                         |  |
| Selenium   | <10                             | 13                              | <10                           | <10                           | <10                           | <10                           | <10                          | <10                          | 12                           | <10                          | 31                         | <10                        | <10                          | <10                          | <10                        | <10                          | <10                          | <10                        | <10                          | <10                          | <10                        |  |
| Zinc   | 290                             | 2400                            | 31                            | 23                            | 32                            | 48                            | 57                           | 30                           | 36                           | 51                           | 3900                       | 1100                       | 48                           | 25                           | 61                         | 38                           | 32                           | 200                        | 40                           | 17                           | 66                         |  |
| <b>PCBs (mg/kg)</b>  |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Aroclor 1016   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Aroclor 1221   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Aroclor 1232   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Aroclor 1242   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Aroclor 1248   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Aroclor 1254   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Aroclor 1260   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Aroclor 1262   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Aroclor 1268   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Polychlorinated biphenyls, Total                           |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| <b>TPH (mg/kg)</b>   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| C6-C12   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Over C12-C28   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Over C28-C35   |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |
| Total Petroleum Hydrocarbons                               |                                 |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                            |                            |                              |                              |                            |                              |                              |                            |                              |                              |                            |  |

Notes are included on Page 9.

**Table F-4**  
**Soil Analytical Data - Acid Plant Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH1-2<br>40 - 42<br>9/2/1999 | BH17-1<br>10 - 11<br>3/1/2001 | BH17-1<br>15 - 16<br>3/1/2001 | BH17-10<br>14 - 15<br>3/2/2001 | BH17-10<br>9 - 10<br>3/2/2001 | BH17-11<br>20 - 21<br>3/2/2001 | BH17-11<br>25 - 26<br>3/2/2001 | BH17-12<br>33 - 34<br>3/2/2001 | BH17-12<br>38 - 39<br>3/2/2001 | BH17-13<br>25 - 26<br>3/5/2001 | BH17-13<br>30 - 31<br>3/5/2001 | BH17-14<br>20 - 21<br>3/5/2001 | BH17-14<br>25 - 26<br>3/5/2001 | BH17-15<br>15 - 16<br>3/5/2001 | BH17-15<br>20 - 21<br>3/5/2001 | BH17-16<br>10 - 11<br>3/5/2001 | BH17-16<br>15 - 16<br>3/5/2001 | BH17-17<br>10 - 11<br>3/5/2001 | BH17-17<br>15 - 16<br>3/5/2001 | BH17-2<br>22 - 23<br>3/1/2001 | BH17-2<br>27 - 28<br>3/1/2001 |  |
|--|------------------------------|-------------------------------|-------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Antimony   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Arsenic  |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                | 16                             |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Barium   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Cadmium  |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                | 43                             |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Chromium   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                | <56                            |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Chromium, hexavalent                                       |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Cobalt   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Copper   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                | 74                             |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Iron   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                | 23200                          |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Lead   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                | 82                             |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Mercury  |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Molybdenum   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Nickel   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Selenium   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                | <10                            |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Silver   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Zinc   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                | 1088                           |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Arsenic  | 21                           | 250                           | 61                            | 56                             | 76                            | 33                             | 11                             | 34                             | 57                             | 50                             | 36                             | 22                             | 67                             | 20                             | 32                             | 87                             | 22                             | 95                             | <10                            | 430                           | 150                           |  |
| Cadmium  | 11                           | 78                            | 35                            | <10                            | 32                            | <10                            | <10                            | 11                             | 10                             | 89                             | 39                             | 61                             | 28                             | <10                            | <10                            | <10                            | 24                             | 120                            | 42                             | 20                            | <10                           |  |
| Chromium   | <80                          | <200                          | <200                          | <200                           | <200                          | <200                           | <200                           | <200                           | <200                           | <200                           | <200                           | <200                           | <200                           | <200                           | <200                           | <200                           | <200                           | <200                           | <200                           | <200                          | <200                          |  |
| Copper   | 45                           | <20                           | <20                           | 47                             | 32                            | 27                             | <20                            | 29                             | 42                             | 64                             | 140                            | 22                             | 77                             | 20                             | 34                             | 35                             | 36                             | 120                            | <20                            | 94                            | 51                            |  |
| Iron   | 28000                        | 9000                          | 8500                          | 7000                           | 17000                         | 14000                          | 7700                           | 13000                          | 12000                          | 19000                          | 21000                          | 9900                           | 18000                          | 11000                          | 14000                          | 14000                          | 7800                           | 12000                          | 5400                           | 22000                         | 21000                         |  |
| Lead   | <10                          | 47                            | 39                            | 240                            | 24                            | 75                             | 26                             | 32                             | 54                             | 96                             | 140                            | 54                             | 73                             | 57                             | 51                             | 42                             | 41                             | 66                             | 27                             | 64                            | 97                            |  |
| Selenium   | <10                          | <40                           | <40                           | <40                            | <40                           | <40                            | <40                            | <40                            | <40                            | <40                            | <40                            | <40                            | <40                            | <40                            | <40                            | <40                            | <40                            | <40                            | <40                            | <40                           | <40                           |  |
| Zinc   | 23                           | 280                           | 110                           | 23                             | 28                            | 50                             | 31                             | 35                             | 28                             | 1500                           | 980                            | 490                            | 1100                           | 87                             | 23                             | 68                             | 280                            | 280                            | 110                            | 690                           | 93                            |  |
| <b>PCBs (mg/kg)</b>  |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Aroclor 1016   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Aroclor 1221   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Aroclor 1232   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Aroclor 1242   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Aroclor 1248   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Aroclor 1254   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Aroclor 1260   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Aroclor 1262   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Aroclor 1268   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Polychlorinated biphenyls, Total                           |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| <b>TPH (mg/kg)</b>   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| C6-C12   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Over C12-C28   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Over C28-C35   |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |
| Total Petroleum Hydrocarbons                               |                              |                               |                               |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                               |                               |  |

Notes are included on Page 9.

**Table F-4**  
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**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH17-20<br>18 - 19<br>3/6/2001 | BH17-20<br>23 - 24<br>3/6/2001 | BH17-3<br>15 - 16<br>3/1/2001 | BH17-3<br>19 - 20<br>3/1/2001 | BH17-4<br>17 - 18<br>3/1/2001 | BH17-4<br>21 - 22<br>3/1/2001 | BH17-5<br>12 - 13<br>3/2/2001 | BH17-5<br>17 - 18<br>3/2/2001 | BH17-6<br>10 - 11<br>3/2/2001 | BH17-6<br>15 - 16<br>3/2/2001 | BH17-7<br>15 - 16<br>3/2/2001 | BH17-7<br>21 - 22<br>3/2/2001 | BH17-8<br>1 - 2<br>3/2/2001 | BH17-8<br>3 - 4<br>3/2/2001 | BH17-8<br>5 - 6<br>3/2/2001 | BH17-9<br>10 - 11<br>3/2/2001 | BH17-9<br>5 - 6<br>3/2/2001 | BH2-12<br>18 - 19<br>3/30/2001 | BH2-12<br>23 - 24<br>3/30/2001 | BH3-2<br>0 - 1<br>8/23/1999 | BH3-2<br>1 - 2<br>8/23/1999 |
|--|--------------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|-----------------------------|--------------------------------|--------------------------------|-----------------------------|-----------------------------|
| <b>Metals (mg/kg)</b>                                      |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Antimony   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Arsenic  |                                |                                |                               |                               |                               |                               |                               |                               | 11                            |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Barium   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Cadmium  |                                |                                |                               |                               |                               |                               |                               |                               | <10                           |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Chromium   |                                |                                |                               |                               |                               |                               |                               |                               | 79                            |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Chromium, hexavalent                                       |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Cobalt   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Copper   |                                |                                |                               |                               |                               |                               |                               |                               | 10                            |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Iron   |                                |                                |                               |                               |                               |                               |                               |                               | 24070                         |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Lead   |                                |                                |                               |                               |                               |                               |                               |                               | 14                            |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Mercury  |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Molybdenum   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Nickel   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Selenium   |                                |                                |                               |                               |                               |                               |                               |                               | <10                           |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Silver   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Zinc   |                                |                                |                               |                               |                               |                               |                               |                               | 53                            |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| <b>Metals (mg/kg)<sup>1</sup></b>                          |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Arsenic  | <10                            | 35                             | 34                            | 54                            | 37                            | 21                            | 230                           | 470                           | 31                            | 25                            | 31                            | 36                            | 290                         | 65                          | 48                          | 25                            | 39                          | 65                             | 62                             | 890                         | <10                         |
| Cadmium  | <10                            | 13                             | <10                           | 36                            | <10                           | <10                           | <10                           | 23                            | 13                            | <10                           | 58                            | 24                            | 66                          | 12                          | 10                          | <10                           | <10                         | 82                             | 55                             | 560                         | <10                         |
| Chromium   | <200                           | <200                           | <200                          | <200                          | 210                           | <200                          | <200                          | <200                          | <200                          | <200                          | <200                          | <200                          | <200                        | <200                        | <200                        | <200                          | 290                         | <80                            | <80                            | <80                         | <80                         |
| Copper   | 21                             | <20                            | 43                            | 57                            | 38                            | 25                            | 53                            | 94                            | 35                            | 29                            | 32                            | 43                            | 1200                        | 28                          | 120                         | <20                           | 56                          | 95                             | 100                            | 4000                        | 82                          |
| Iron   | 5900                           | 7600                           | 12000                         | 13000                         | 9900                          | 12000                         | 11000                         | 20000                         | 16000                         | 9100                          | 13000                         | 7500                          | 14000                       | 14000                       | 9700                        | 15000                         | 16000                       | 12000                          | 20000                          | 30000                       | 20000                       |
| Lead   | 21                             | 49                             | 78                            | 170                           | 100                           | 52                            | 34                            | 54                            | 54                            | 50                            | 48                            | 66                            | 1200                        | 62                          | 96                          | 74                            | 120                         | 45                             | 78                             | 2500                        | 52                          |
| Selenium   | <40                            | <40                            | <40                           | <40                           | <40                           | <40                           | <40                           | <40                           | <40                           | <40                           | <40                           | <40                           | <40                         | <40                         | <40                         | <40                           | <40                         | <20                            | <20                            | 19                          | <10                         |
| Zinc   | 12                             | 19                             | 65                            | 370                           | 34                            | 64                            | 58                            | 600                           | 28                            | 74                            | 56                            | 100                           | 5000                        | 180                         | 320                         | 140                           | 210                         | 340                            | 580                            | 4600                        | 61                          |
| <b>PCBs (mg/kg)</b>  |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Aroclor 1016   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Aroclor 1221   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Aroclor 1232   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Aroclor 1242   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Aroclor 1248   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Aroclor 1254   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Aroclor 1260   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Aroclor 1262   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Aroclor 1268   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Polychlorinated biphenyls, Total                           |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| <b>TPH (mg/kg)</b>   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| C6-C12   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Over C12-C28   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Over C28-C35   |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |
| Total Petroleum Hydrocarbons                               |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                             |                               |                             |                                |                                |                             |                             |

Notes are included on Page 9.

**Table F-4**  
**Soil Analytical Data - Acid Plant Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH3-2<br>25 - 27<br>8/23/1999 | BH3-2<br>30 - 32<br>8/23/1999 | BH3-2<br>35 - 37<br>8/23/1999 | BH3-2<br>40 - 42<br>8/23/1999 | BH3-2<br>45 - 47<br>8/23/1999 | BH3-3<br>40 - 42<br>8/24/1999 | BH3-3<br>45 - 47<br>8/24/1999 | BH3-4<br>0 - 1<br>8/24/1999 | BH3-4<br>1 - 2<br>8/24/1999 | BH3-4<br>39 - 41<br>8/25/1999 | BH3-4<br>40 - 52<br>8/25/1999 | BH3-4<br>45 - 47<br>8/25/1999 | BH3-5<br>3 - 4.5<br>8/25/1999 | BH3-5<br>31 - 31<br>8/25/1999 | BH3-5<br>35 - 35<br>8/25/1999 | BH3-5<br>40 - 40<br>8/25/1999 | BH3-5<br>45 - 45<br>8/25/1999 | BH3-5<br>50 - 52<br>8/25/1999 | BH3-6<br>18 - 20<br>8/25/1999 | BH3-6<br>25 - 27<br>8/25/1999 | BH3-6<br>30 - 32<br>8/26/1999 |  |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Antimony   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Arsenic  |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Barium   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Cadmium  |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Chromium   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Chromium, hexavalent                                       |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Cobalt   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Copper   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Iron   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Lead   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Mercury  |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Molybdenum   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Nickel   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Selenium   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Silver   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Zinc   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| <b>Metals (mg/kg)<sup>1</sup></b>                          |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Arsenic  | 72                            | <10                           | <10                           | 16                            | <10                           | <10                           | 18                            | 64                          | <10                         | 370                           | 19                            | 20                            | 870                           | 2100                          | 420                           | 46                            | 25                            | 55                            | <10                           | <10                           | <10                           |  |
| Cadmium  | 51                            | 14                            | <10                           | <10                           | <10                           | <10                           | 13                            | 37                          | <10                         | 360                           | <10                           | <10                           | 190                           | 430                           | 300                           | <10                           | <10                           | <10                           | 41                            | 28                            | <10                           |  |
| Chromium   | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                         | <80                         | <80                           | <80                           | <80                           | 260                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           |  |
| Copper   | 54                            | <20                           | <20                           | <20                           | <20                           | 23                            | 20                            | 211                         | 65                          | 93                            | <20                           | <20                           | 7400                          | 110                           | 65                            | <20                           | <20                           | 48                            | <20                           | <20                           | <20                           |  |
| Iron   | 17000                         | 21000                         | 19000                         | 26000                         | 19000                         | 24000                         | 27000                         | 17000                       | 15000                       | 18000                         | 24000                         | 22000                         | 31000                         | 21000                         | 17000                         | 20000                         | 17000                         | 20000                         | 10000                         | 10000                         | 11000                         |  |
| Lead   | 34                            | <10                           | 16                            | <10                           | <10                           | 18                            | <10                           | 1300                        | 120                         | 72                            | <10                           | 15                            | 3800                          | 63                            | 14                            | 14                            | <10                           | 16                            | 23                            | 14                            | 20                            |  |
| Selenium   | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | 10                          | <10                         | <10                           | <10                           | <10                           | 35                            | 81                            | 13                            | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           |  |
| Zinc   | 8000                          | 48                            | 20                            | 24                            | 39                            | 100                           | 77                            | 400                         | 130                         | 44000                         | 120                           | 190                           | 10000                         | 40000                         | 33000                         | 160                           | 78                            | 180                           | 330                           | 110                           | <10                           |  |
| <b>PCBs (mg/kg)</b>  |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Aroclor 1016   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Aroclor 1221   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Aroclor 1232   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Aroclor 1242   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Aroclor 1248   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Aroclor 1254   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Aroclor 1260   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Aroclor 1262   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Aroclor 1268   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Polychlorinated biphenyls, Total                           |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| <b>TPH (mg/kg)</b>   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| C6-C12   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Over C12-C28   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Over C28-C35   |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |
| Total Petroleum Hydrocarbons                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |  |

Notes are included on Page 9.

**Table F-4**  
**Soil Analytical Data - Acid Plant Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH3-6<br>35 - 37<br>8/26/1999 | BH3-6<br>40 - 42<br>8/26/1999 | BH3-6<br>45 - 47<br>8/26/1999 | BH3-6<br>50 - 52<br>8/26/1999 | BH3-6<br>55 - 57<br>8/26/1999 | BH3-6<br>60 - 62<br>8/26/1999 | BH3-6<br>65 - 67<br>8/26/1999 | BH3-8<br>55 - 57<br>8/31/1999 | BH3-8<br>60 - 62<br>8/31/1999 | CON-SS01<br>0.5 - 0.5<br>10/24/2011 | CON-SS02<br>0.5 - 0.5<br>10/24/2011 | CON-SS03<br>0.5 - 0.5<br>10/24/2011 | CON-SS05<br>0.5 - 0.5<br>10/24/2011 | DDA-SB01<br>0.5 - 0.5<br>10/19/2011 | DDA-SB01<br>1.5 - 1.5<br>10/19/2011 | DDA-SB01<br>3.5 - 3.5<br>10/19/2011 | DDA-SB01<br>5 - 5<br>10/19/2011 | DDA-SB02<br>0.5 - 0.5<br>10/19/2011 | DDA-SB02<br>1.5 - 1.5<br>10/19/2011 | DDA-SB02<br>3.5 - 3.5<br>10/19/2011 | DDA-SB02<br>5 - 5<br>10/19/2011 |  |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Antimony   |                               |                               |                               |                               |                               |                               |                               |                               |                               | 393                                 | 518                                 | 1760                                | 482                                 |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Arsenic  |                               |                               |                               |                               |                               |                               |                               |                               |                               | 6760                                | 9140                                | 25300                               | 7760                                |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Barium   |                               |                               |                               |                               |                               |                               |                               |                               |                               | 362                                 | 179                                 | 510                                 | 415                                 |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Cadmium  |                               |                               |                               |                               |                               |                               |                               |                               |                               | 817                                 | 1390                                | 3460                                | 1220                                |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Chromium   |                               |                               |                               |                               |                               |                               |                               |                               |                               | 93.6                                | 84.4                                | 329                                 | 106                                 |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Chromium, hexavalent                                       |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Cobalt   |                               |                               |                               |                               |                               |                               |                               |                               |                               | 93.4                                | 33.6                                | 205                                 | 123                                 |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Copper   |                               |                               |                               |                               |                               |                               |                               |                               |                               | 18500                               | 37200                               | 51300                               | 33800                               |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Iron   |                               |                               |                               |                               |                               |                               |                               |                               |                               | 93500                               | 65300                               | 223000                              | 117000                              |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Lead   |                               |                               |                               |                               |                               |                               |                               |                               |                               | 13600                               | 13800                               | 43700                               | 14800                               |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Mercury  |                               |                               |                               |                               |                               |                               |                               |                               |                               | 0.415                               | 0.0103                              | 24.5                                | 43.2                                |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Molybdenum   |                               |                               |                               |                               |                               |                               |                               |                               |                               | 667                                 | 833                                 | 2070                                | 714                                 |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Nickel   |                               |                               |                               |                               |                               |                               |                               |                               |                               | 119                                 | 109                                 | 412                                 | 166                                 |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Selenium   |                               |                               |                               |                               |                               |                               |                               |                               |                               | 160                                 | 223                                 | 581                                 | 179                                 |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Silver   |                               |                               |                               |                               |                               |                               |                               |                               |                               | 63.2                                | 93.9                                | 285                                 | 77.1                                |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Zinc   |                               |                               |                               |                               |                               |                               |                               |                               |                               | 17900                               | 17500                               | 23600                               | 25200                               |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Arsenic  | <10                           | 40                            | <10                           | 330                           | 1100                          | <10                           | 72                            | <10                           | 180                           |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Cadmium  | 16                            | 14                            | <10                           | 26                            | 40                            | <10                           | <10                           | <10                           | 42                            |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Chromium   | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Copper   | <20                           | <20                           | <20                           | <20                           | <20                           | <20                           | 47                            | <20                           | 44                            |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Iron   | 14000                         | 22000                         | 17000                         | 10000                         | 10000                         | 8800                          | 47000                         | 13000                         | 14000                         |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Lead   | <10                           | 22                            | 27                            | 24                            | 48                            | 24                            | 28                            | 15                            | 33                            |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Selenium   | <10                           | <10                           | <10                           | <10                           | 14                            | <10                           | <10                           | <10                           | <10                           |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Zinc   | 60                            | 72                            | 39                            | 260                           | 400                           | 46                            | 100                           | 59                            | 8500                          |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| <b>PCBs (mg/kg)</b>  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| Aroclor 1016   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     | <0.0052                             | <0.00522                            | <0.00504                            | <0.00515                        | <0.00532                            | <0.00516                            | <0.00518                            | <0.00514                        |  |
| Aroclor 1221   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     | <0.0052                             | <0.00522                            | <0.00504                            | <0.00515                        | <0.00532                            | <0.00516                            | <0.00518                            | <0.00514                        |  |
| Aroclor 1232   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     | <0.0052                             | <0.00522                            | <0.00504                            | <0.00515                        | <0.00532                            | <0.00516                            | <0.00518                            | <0.00514                        |  |
| Aroclor 1242   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     | 0.031 J                             | 0.0237 J                            | <0.00504                            | <0.00515                        | <0.00532                            | <0.00516                            | <0.00518                            | <0.00514                        |  |
| Aroclor 1248   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     | <0.0052                             | <0.00522                            | <0.00504                            | <0.00515                        | <0.00532                            | <0.00516                            | <0.00518                            | <0.00514                        |  |
| Aroclor 1254   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     | 0.022 J                             | 0.0265 J                            | <0.00504                            | <0.00515                        | 0.0244 J                            | <0.00516                            | <0.00518                            | <0.00514                        |  |
| Aroclor 1260   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     | 0.0226 J                            | 0.0346 J                            | <0.00504                            | <0.00515                        | 0.0185 J                            | <0.00516                            | <0.00518                            | <0.00514                        |  |
| Aroclor 1262   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     | <0.0052                             | <0.00522                            | <0.00504                            | <0.00515                        | <0.00532                            | <0.00516                            | <0.00518                            | <0.00514                        |  |
| Aroclor 1268   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     | <0.0052                             | <0.00522                            | <0.00504                            | <0.00515                        | <0.00532                            | <0.00516                            | <0.00518                            | <0.00514                        |  |
| Polychlorinated biphenyls, Total                           |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     | <0.0052                             | <0.00515                            | <0.00504                            | <0.00515                        | 0.0429                              | <0.00516                            | <0.00518                            | <0.00514                        |  |
| <b>TPH (mg/kg)</b>   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |  |
| C6-C12   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     | <15                                 | <10.3                               | <10.2                               | <10.2                           | <16                                 | <10.4                               | <10.4                               | <10.2                           |  |
| Over C12-C28   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     | 188                                 | 314 J                               | <10.2                               | <10.2                           | 46.6 J                              | <10.4                               | <10.4                               | <10.2                           |  |
| Over C28-C35   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     | 87.3 J                              | 66.4 J                              | <10.2                               | <10.2                           | 24.5 J                              | <10.4                               | <10.4                               | <10.2                           |  |
| Total Petroleum Hydrocarbons                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                                     |                                     |                                     |                                     | 299                                 | 518 J                               | <10.2                               | <10.2                           | 71.1 J                              | <10.4                               | <10.4                               | <10.2                           |  |

Notes are included on Page 9.



**Table F-4**  
**Soil Analytical Data - Acid Plant Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | DDA-SB03<br>0.5 - 0.5<br>10/19/2011 | DDA-SB03<br>1.5 - 1.5<br>10/19/2011 | DDA-SB03<br>3.5 - 3.5<br>10/19/2011 | DDA-SB03<br>5 - 5<br>10/19/2011 | EP-100<br>0 - 1<br>9/8/1999 | EP-100<br>1 - 2<br>9/8/1999 | EP-100<br>10 - 12<br>9/8/1999 | EP-100<br>15 - 17<br>9/8/1999 | EP-100<br>2 - 3<br>9/8/1999 | EP-100<br>20 - 22<br>9/8/1999 | EP-100<br>25 - 27<br>9/8/1999 | EP-100<br>3 - 4<br>9/8/1999 | EP-100<br>30 - 32<br>9/8/1999 1:25:00 | EP-100<br>35 - 37<br>9/8/1999 1:30:00 | EP-100<br>4 - 5<br>9/8/1999 | EP-100<br>40 - 42<br>9/8/1999 1:40:00 | EP-100<br>45 - 47<br>9/8/1999 1:47:00 | PBA-CS-03<br>0 - 0.5<br>12/8/2011 | SSIA1-1<br>0 - 1<br>7/15/1997 | SSIA1-1<br>1.5 - 1.5<br>7/15/1997 | SSIA1-1<br>3 - 3<br>7/15/1997 |  |
|--|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|---------------------------------------|---------------------------------------|-----------------------------|---------------------------------------|---------------------------------------|-----------------------------------|-------------------------------|-----------------------------------|-------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Antimony   |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Arsenic  |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   | 3200                          | 2300                              |                               |  |
| Barium   |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Cadmium  |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   | 1900                          | 91                                |                               |  |
| Chromium   |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   | 62                            | 330                               |                               |  |
| Chromium, hexavalent                                       |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Cobalt   |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Copper   |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   | 13000                         | 7600                              |                               |  |
| Iron   |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   | 18000                         | 150000                            |                               |  |
| Lead   |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   | 11000                         | 5000                              |                               |  |
| Mercury  |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Molybdenum   |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Nickel   |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Selenium   |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   | 190                           | 13                                |                               |  |
| Silver   |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Zinc   |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   | 7000                          | 13000                             |                               |  |
| <b>Metals (mg/kg)<sup>1</sup></b>                          |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Arsenic  |                                     |                                     |                                     |                                 | 850                         | 2300                        | 290                           | 14                            | 720                         | 91                            | 130                           | 280                         | 28                                    | 100                                   | 76                          | 100                                   | 110                                   |                                   |                               |                                   | 4700                          |  |
| Cadmium  |                                     |                                     |                                     |                                 | 360                         | 310                         | 61                            | <10                           | 210                         | 24                            | <10                           | 410                         | <10                                   | 220                                   | 33                          | <10                                   | <10                                   |                                   |                               |                                   | 1700                          |  |
| Chromium   |                                     |                                     |                                     |                                 | <80                         | <80                         | <80                           | 96                            | 92                          | <80                           | <80                           | <80                         | <80                                   | <80                                   | <80                         | <80                                   | <80                                   |                                   |                               |                                   | <30                           |  |
| Copper   |                                     |                                     |                                     |                                 | 2900                        | 4600                        | 2000                          | 750                           | 11000                       | 2200                          | 140                           | 7400                        | 41                                    | 77                                    | 2100                        | <20                                   | 35                                    |                                   |                               |                                   | 12000                         |  |
| Iron   |                                     |                                     |                                     |                                 | 23000                       | 27000                       | 21000                         | 16000                         | 45000                       | 17000                         | 27000                         | 22000                       | 29000                                 | 27000                                 | 18000                       | 120000                                | 110000                                |                                   |                               |                                   | 38000                         |  |
| Lead   |                                     |                                     |                                     |                                 | 850                         | 610                         | 440                           | 240                           | 1900                        | 790                           | 370                           | 1900                        | 37                                    | 50                                    | 680                         | <10                                   | <10                                   |                                   |                               |                                   | 12000                         |  |
| Selenium   |                                     |                                     |                                     |                                 | 20                          | 28                          | <10                           | <10                           | 19                          | <10                           | <10                           | 22                          | <10                                   | <10                                   | 11                          | <10                                   | <10                                   |                                   |                               |                                   | 110                           |  |
| Zinc   |                                     |                                     |                                     |                                 | 3100                        | 3600                        | 960                           | 240                           | 3300                        | 1400                          | 110                           | 6900                        | 32                                    | 540                                   | 2400                        | 64                                    | 66                                    |                                   |                               |                                   | 11000                         |  |
| <b>PCBs (mg/kg)</b>  |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Aroclor 1016   | <0.00512                            | <0.00522                            | <0.00522                            | <0.0052                         |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Aroclor 1221   | <0.00512                            | <0.00522                            | <0.00522                            | <0.0052                         |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Aroclor 1232   | <0.00512                            | <0.00522                            | <0.00522                            | <0.0052                         |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Aroclor 1242   | <0.00512                            | <0.00522                            | 0.0138 J                            | <0.0052                         |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Aroclor 1248   | <0.00512                            | <0.00522                            | <0.00522                            | <0.0052                         |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Aroclor 1254   | 0.0213 J                            | 0.0089 J                            | 0.0243 J                            | <0.0052                         |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Aroclor 1260   | 0.0162 J                            | <0.00522                            | 0.0233 J                            | <0.0052                         |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Aroclor 1262   | <0.00512                            | <0.00522                            | <0.00522                            | <0.0052                         |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Aroclor 1268   | <0.00512                            | <0.00522                            | <0.00522                            | <0.0052                         |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| Polychlorinated biphenyls, Total                           | 0.0375                              | 0.0133 J                            | 0.0614                              | <0.0052                         |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| <b>TPH (mg/kg)</b>   |                                     |                                     |                                     |                                 |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   |                               |                                   |                               |  |
| C6-C12   | <10.2                               | <10.5                               | <10.3                               | <10.4                           |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   | <9.99                         |                                   |                               |  |
| Over C12-C28   | 201                                 | 137                                 | 141                                 | <10.4                           |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   | <9.99                         |                                   |                               |  |
| Over C28-C35   | 93.7                                | 53.5                                | 54.7                                | <10.4                           |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   | <9.99                         |                                   |                               |  |
| Total Petroleum Hydrocarbons                               | 295                                 | 191                                 | 196                                 | <10.4                           |                             |                             |                               |                               |                             |                               |                               |                             |                                       |                                       |                             |                                       |                                       |                                   | <9.99                         |                                   |                               |  |

Notes are included on Page 9.

**Table F-4**  
**Soil Analytical Data - Acid Plant Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SSIA1-1<br>4 - 4<br>7/15/1997 | SSIA1-2<br>0 - 1<br>7/15/1997 | SSIA1-2<br>1.5 - 1.5<br>7/15/1997 | SSIA1-2<br>3 - 3<br>7/15/1997 | SSIA1-2<br>4 - 4<br>7/15/1997 | SSIA1-3<br>0 - 1<br>7/15/1997 | SSIA1-3<br>1.5 - 1.5<br>7/15/1997 | SSIA1-3<br>3 - 3<br>7/15/1997 | SSIA1-3<br>4 - 4<br>7/15/1997 | SSIA1-4<br>0 - 1<br>7/15/1997 | SSIA1-4<br>1.5 - 1.5<br>7/15/1997 | SSIA1-4<br>3 - 3<br>7/15/1997 | SSIA1-4<br>4 - 4<br>7/15/1997 | SSIA1-5<br>0 - 1<br>7/15/1997 | SSIA1-5<br>1.5 - 1.5<br>7/15/1997 | SSIA1-5<br>3 - 3<br>7/15/1997 | SSIA1-5<br>4 - 4<br>7/15/1997 | SSIA3-10<br>0 - 1<br>7/15/1997 | SSIA3-10<br>1.5 - 1.5<br>7/15/1997 | SSIA3-10<br>3 - 3<br>7/15/1997 | SSIA3-10<br>4 - 4<br>7/15/1997 |
|--|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Antimony   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Arsenic  |                               | 21000                         | 22000                             |                               |                               | 2000                          | 4900                              |                               |                               | 410                           | 570                               |                               |                               | 1800                          | 220                               |                               |                               | 2800                           | 980                                |                                |                                |
| Barium   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Cadmium  |                               | 1100                          | 1600                              |                               |                               | 320                           | 110                               |                               |                               | 88                            | 160                               |                               |                               | 120                           | 20                                |                               |                               | 360                            | 680                                |                                |                                |
| Chromium   |                               | 60                            | 110                               |                               |                               | <30                           | 97                                |                               |                               | <30                           | 110                               |                               |                               | 39                            | 170                               |                               |                               | 95                             | <30                                |                                |                                |
| Chromium, hexavalent                                       |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Cobalt   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Copper   |                               | 11000                         | 28000                             |                               |                               | 4000                          | 37000                             |                               |                               | 1800                          | 11000                             |                               |                               | 2500                          | 3500                              |                               |                               | 7900                           | 4700                               |                                |                                |
| Iron   |                               | 30000                         | 46000                             |                               |                               | 12000                         | 44000                             |                               |                               | 15000                         | 44000                             |                               |                               | 18000                         | 18000                             |                               |                               | 15000                          | 120000                             |                                |                                |
| Lead   |                               | 15                            | 5400                              |                               |                               | 4100                          | 5800                              |                               |                               | 690                           | 6200                              |                               |                               | 1200                          | 830                               |                               |                               | 19000                          | 25000                              |                                |                                |
| Mercury  |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Molybdenum   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Nickel   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Selenium   |                               | 1300                          | 200                               |                               |                               | 41                            | 36                                |                               |                               | <10                           | 25                                |                               |                               | <10                           | <10                               |                               |                               | 77                             | 46                                 |                                |                                |
| Silver   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Zinc   |                               | 2600                          | 4900                              |                               |                               | 2200                          | 7200                              |                               |                               | 1500                          | 7500                              |                               |                               | 2300                          | 550                               |                               |                               | 4100                           | 15000                              |                                |                                |
| <b>Metals (mg/kg)<sup>1</sup></b>                          |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Arsenic  | 2600                          |                               |                                   | 15000                         | 22000                         |                               |                                   | 3400                          | 1900                          |                               |                                   |                               | 370                           | 130                           |                                   |                               | 90                            | <20                            |                                    | 1400                           | 3500                           |
| Cadmium  | 900                           |                               |                                   | 1200                          | 1300                          |                               |                                   | 110                           | 100                           |                               |                                   |                               | 100                           | 41                            |                                   |                               | 16                            | <10                            |                                    | 370                            | 550                            |
| Chromium   | <30                           |                               |                                   | 53                            | 130                           |                               |                                   | <30                           | 160                           |                               |                                   |                               | 31                            | 63                            |                                   |                               | 64                            | 98                             |                                    | 100                            | 90                             |
| Copper   | 24000                         |                               |                                   | 25000                         | 24000                         |                               |                                   | 21000                         | 13000                         |                               |                                   |                               | 7200                          | 3100                          |                                   |                               | 2900                          | 310                            |                                    | 4800                           | 6700                           |
| Iron   | 21000                         |                               |                                   | 44000                         | 47000                         |                               |                                   | 83000                         | 64000                         |                               |                                   |                               | 36000                         | 21000                         |                                   |                               | 19000                         | 15000                          |                                    | 130000                         | 130000                         |
| Lead   | 20000                         |                               |                                   | 8900                          | 4000                          |                               |                                   | 7300                          | 5800                          |                               |                                   |                               | 3600                          | 1400                          |                                   |                               | 670                           | 140                            |                                    | 14000                          | 20000                          |
| Selenium   | 220                           |                               |                                   | 230                           | 120                           |                               |                                   | 20                            | 22                            |                               |                                   |                               | 12                            | <10                           |                                   |                               | <10                           | <10                            |                                    | 30                             | 31                             |
| Zinc   | 7900                          |                               |                                   | 4500                          | 4400                          |                               |                                   | 8700                          | 5900                          |                               |                                   |                               | 4700                          | 740                           |                                   |                               | 430                           | 95                             |                                    | 13000                          | 14000                          |
| <b>PCBs (mg/kg)</b>  |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Aroclor 1016   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Aroclor 1221   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Aroclor 1232   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Aroclor 1242   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Aroclor 1248   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Aroclor 1254   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Aroclor 1260   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Aroclor 1262   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Aroclor 1268   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Polychlorinated biphenyls, Total                           |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| <b>TPH (mg/kg)</b>   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| C6-C12   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Over C12-C28   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Over C28-C35   |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |
| Total Petroleum Hydrocarbons                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |

Notes are included on Page 9.

**Table F-4**  
**Soil Analytical Data - Acid Plant Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SSIA3-3<br>0 - 1<br>7/14/1997 | SSIA3-3<br>1.5 - 1.5<br>7/14/1997 | SSIA3-3<br>3 - 3<br>7/14/1997 | SSIA3-3<br>4 - 4<br>7/14/1997 | SSIA3-4<br>0 - 1<br>7/14/1997 | SSIA3-4<br>1.5 - 1.5<br>7/14/1997 | SSIA3-6<br>0 - 1<br>7/15/1997 | SSIA3-6<br>1.5 - 1.5<br>7/15/1997 | SSIA3-6<br>3 - 3<br>7/15/1997 | SSIA3-6<br>4 - 4<br>7/15/1997 | SSIA3-7<br>0 - 1<br>7/15/1997 | SSIA3-7<br>1.5 - 1.5<br>7/15/1997 | SSIA3-7<br>3 - 3<br>7/15/1997 | SSIA3-7<br>4 - 4<br>7/15/1997 | SSIA3-8<br>0 - 1<br>7/15/1997 | SSIA3-8<br>1.5 - 1.5<br>7/15/1997 | SSIA3-8<br>3 - 3<br>7/15/1997 | SSIA3-8<br>4 - 4<br>7/15/1997 | SSIA3-9<br>0 - 1<br>7/15/1997 | SSIA3-9<br>1.5 - 1.5<br>7/15/1997 | SSIA3-9<br>3 - 3<br>7/15/1997 |  |
|--|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Antimony   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Arsenic  | 480                           | <20                               |                               |                               | 7800                          | 3000                              | 2900                          | 230                               |                               |                               | 820                           | 2700                              |                               |                               | 3200                          | 740                               |                               |                               | 1900                          | 570                               |                               |  |
| Barium   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Cadmium  | 150                           | <10                               |                               |                               | 1600                          | 330                               | 790                           | 67                                |                               |                               | 150                           | 440                               |                               |                               | 1100                          | 170                               |                               |                               | 1400                          | 340                               |                               |  |
| Chromium   | 41                            | 100                               |                               |                               | 140                           | 300                               | 260                           | 60                                |                               |                               | 120                           | 1400                              |                               |                               | 290                           | 110                               |                               |                               | 53                            | 52                                |                               |  |
| Chromium, hexavalent                                       |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Cobalt   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Copper   | 3600                          | 72                                |                               |                               | 7400                          | 4400                              | 11000                         | 1000                              |                               |                               | 1900                          | 3900                              |                               |                               | 20000                         | 3300                              |                               |                               | 8500                          | 2700                              |                               |  |
| Iron   | 15000                         | 6000                              |                               |                               | 55000                         | 150000                            | 30000                         | 16000                             |                               |                               | 12000                         | 45000                             |                               |                               | 60000                         | 19000                             |                               |                               | 34000                         | 23000                             |                               |  |
| Lead   | 2000                          | 37                                |                               |                               | 7300                          | 5600                              | 11000                         | 1000                              |                               |                               | 2200                          | 3700                              |                               |                               | 8100                          | 1600                              |                               |                               | 4500                          | 2700                              |                               |  |
| Mercury  |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Molybdenum   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Nickel   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Selenium   | <10                           | <10                               |                               |                               | 53                            | 35                                | 60                            | <10                               |                               |                               | 22                            | 94                                |                               |                               | 60                            | 14                                |                               |                               | 33                            | 26                                |                               |  |
| Silver   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Zinc   | 1900                          | 100                               |                               |                               | 9800                          | 16000                             | 14000                         | 1300                              |                               |                               | 2200                          | 14000                             |                               |                               | 9900                          | 1900                              |                               |                               | 5500                          | 2600                              |                               |  |
| <b>Metals (mg/kg)<sup>1</sup></b>                          |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Arsenic  |                               |                                   | 28                            | <20                           |                               |                                   |                               |                                   | 1200                          | 580                           |                               |                                   |                               | 2000                          | 1400                          |                                   |                               | 64                            | 680                           |                                   | 99                            |  |
| Cadmium  |                               |                                   | <10                           | <10                           |                               |                                   |                               |                                   | 240                           | 130                           |                               |                                   |                               | 270                           | 180                           |                                   |                               | 17                            | 100                           |                                   | 49                            |  |
| Chromium   |                               |                                   | <30                           | <30                           |                               |                                   |                               |                                   | 130                           | 160                           |                               |                                   |                               | 1500                          | 1400                          |                                   |                               | <30                           | <30                           |                                   | 40                            |  |
| Copper   |                               |                                   | 110                           | 17                            |                               |                                   |                               |                                   | 4400                          | 3400                          |                               |                                   |                               | 3600                          | 3600                          |                                   |                               | 380                           | 3000                          |                                   | 540                           |  |
| Iron   |                               |                                   | 7000                          | 7000                          |                               |                                   |                               |                                   | 48000                         | 84000                         |                               |                                   |                               | 71000                         | 120000                        |                                   |                               | 11000                         | 21000                         |                                   | 18000                         |  |
| Lead   |                               |                                   | 95                            | 45                            |                               |                                   |                               |                                   | 4200                          | 2900                          |                               |                                   |                               | 3300                          | 3300                          |                                   |                               | 230                           | 1800                          |                                   | 550                           |  |
| Selenium   |                               |                                   | <10                           | <10                           |                               |                                   |                               |                                   | 15                            | <10                           |                               |                                   |                               | 46                            | 44                            |                                   |                               | <10                           | <10                           |                                   | <10                           |  |
| Zinc   |                               |                                   | 210                           | 120                           |                               |                                   |                               |                                   | 5800                          | 4600                          |                               |                                   |                               | 13000                         | 12000                         |                                   |                               | 290                           | 2200                          |                                   | 900                           |  |
| <b>PCBs (mg/kg)</b>  |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Aroclor 1016   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Aroclor 1221   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Aroclor 1232   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Aroclor 1242   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Aroclor 1248   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Aroclor 1254   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Aroclor 1260   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Aroclor 1262   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Aroclor 1268   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Polychlorinated biphenyls, Total                           |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| <b>TPH (mg/kg)</b>   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| C6-C12   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Over C12-C28   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Over C28-C35   |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |
| Total Petroleum Hydrocarbons                               |                               |                                   |                               |                               |                               |                                   |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |  |

Notes are included on Page 9.

**Table F-4**  
**Soil Analytical Data - Acid Plant Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SSIA3-9<br>4 - 4<br>7/15/1997 | ZCP-SB01<br>15 - 15<br>10/20/2011 | ZCP-SB01<br>20 - 20<br>10/20/2011 | ZCP-SB01<br>5 - 5<br>10/20/2011 | ZCP-SB01<br>8.5 - 8.5<br>10/20/2011 | ZCP-SB02<br>0.5 - 0.5<br>10/20/2011 | ZCP-SB02<br>5 - 5<br>10/20/2011 | ZCP-SB03<br>0.5 - 0.5<br>10/20/2011 | ZCP-SB05<br>0.5 - 0.5<br>10/20/2011 | ZCP-SB05<br>1.5 - 1.5<br>10/20/2011 | ZCP-SB05<br>3.5 - 3.5<br>10/20/2011 | ZCP-SB05<br>5 - 5<br>10/20/2011 | ZCP-SB06<br>0.5 - 0.5<br>10/20/2011 | ZCP-SB06<br>1.5 - 1.5<br>10/20/2011 | ZCP-SB06<br>3.5 - 3.5<br>10/20/2011 | ZCP-SB06<br>5 - 5<br>10/20/2011 |
|--|-------------------------------|-----------------------------------|-----------------------------------|---------------------------------|-------------------------------------|-------------------------------------|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Antimony   |                               | 28.7                              | 4.59                              | 25.4                            | 37.5                                | 9.33                                | 13.1                            | 7.97                                | 300                                 | 85                                  | 135                                 | 132                             | 808                                 | 35.6                                | 77.1                                | 34.1                            |
| Arsenic  |                               | 1020                              | 413                               | 180                             | 825 J                               | 111                                 | 86.8 J                          | 85.7                                | 6300                                | 1160                                | 2250                                | 2220                            | 12000                               | 1280                                | 1740                                | 398                             |
| Barium   |                               | 183                               | 139                               | 134                             | 162 J                               | 120                                 | 267 J                           | 123                                 | 526                                 | 1270                                | 278                                 | 602                             | 626                                 | 571                                 | 1050                                | 89.6                            |
| Cadmium  |                               | 158 J                             | 70.6 J                            | 84 J                            | 73 J                                | 47.5 J                              | 56.3 J                          | 50.1 J                              | 175 J                               | 45.8 J                              | 62.9 J                              | 70.1 J                          | 1530 J                              | 185 J                               | 377 J                               | 51.8 J                          |
| Chromium   |                               | 9.09                              | 8.69                              | 9.24                            | 3.93 J                              | 4.27                                | 6.99                            | 8.07                                | 10 J                                | 36.2                                | 7.67                                | 13.2                            | 17.8                                | 12                                  | 29.4                                | 6.79                            |
| Chromium, hexavalent                                       |                               | <0.289 UJ                         | <0.292 UJ                         | <0.284 UJ                       | <0.293 UJ                           | <0.292 UJ                           | <0.332 UJ                       | <0.299 UJ                           | <0.289 UJ                           | <0.29 UJ                            | <0.299 UJ                           | <0.302 UJ                       | <0.284 UJ                           | <0.301 UJ                           | <0.289 UJ                           | <0.295 UJ                       |
| Cobalt   |                               | 4.03                              | 2.55                              | 8.72                            | 4.22                                | 3.26                                | 6.44 J                          | 4.87                                | 31.5                                | 26.6                                | 12.2                                | 20.7                            | 48.3                                | 11.4                                | 11.8                                | 3.28                            |
| Copper   |                               | 313                               | 45.3                              | 444                             | 379 J                               | 201                                 | 356 J                           | 174                                 | 8510                                | 2230                                | 3930                                | 8240                            | 23600                               | 2600                                | 1660                                | 74.2                            |
| Iron   |                               | 10900                             | 6650                              | 10600                           | 8120                                | 4860                                | 9950                            | 11100                               | 116000                              | 190000                              | 33700                               | 73400                           | 79000                               | 110000                              | 107000                              | 10100                           |
| Lead   |                               | 533                               | 67                                | 751                             | 730 J                               | 376                                 | 585 J                           | 227                                 | 9980                                | 10200                               | 3160                                | 4760                            | 10500                               | 5760                                | 6480                                | 145                             |
| Mercury  |                               | 0.288 J                           | 0.0716 J                          | 3.13 J                          | 1.12 J                              | 0.817 J                             | 0.852 J                         | 4.21 J                              | 2.4 J                               | 0.0613 J                            | 2.04 J                              | 0.562 J                         | 10.4 J                              | 2.14 J                              | 4.52 J                              | 0.233 J                         |
| Molybdenum   |                               | 4.38 J                            | 1.27 J                            | 12.8 J                          | 3.86 J                              | 2.64 J                              | 6.85 J                          | 2.85 J                              | 89.7 J                              | 136 J                               | 23.1 J                              | 73.3 J                          | 83 J                                | 49.3 J                              | 57.2 J                              | 1.14 J                          |
| Nickel   |                               | 9.06 J                            | 7.71 J                            | 6.83 J                          | 6.44 J                              | 5.56 J                              | 7.38 J                          | 7.87 J                              | 38.7 J                              | 10.4 J                              | 18.1 J                              | 15.1 J                          | 47.7 J                              | 4.03 J                              | 7.88 J                              | 5.93 J                          |
| Selenium   |                               | 4.37                              | 1.96                              | 5.11                            | 5.56 J                              | 2.34                                | 2.35                            | 1.85                                | 28.9                                | <4.32                               | 12.8                                | 12.2                            | 169                                 | 22.8                                | 39.8                                | 7.28                            |
| Silver   |                               | 1.21                              | <0.113                            | 3.28                            | 1.79 J                              | 1.7                                 | 2.69 J                          | 1.33                                | 29.9                                | 18.8                                | 12.3                                | 14.5                            | 47                                  | 8.12                                | 15                                  | 0.375 J                         |
| Zinc   |                               | 3360                              | 1280                              | 1710                            | 16200                               | 241                                 | 290 J                           | 273                                 | 22000                               | 19700                               | 4990                                | 12700                           | 22200                               | 19600                               | 23200                               | 211                             |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Arsenic  | <20                           |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Cadmium  | <10                           |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Chromium   | 68                            |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Copper   | 130                           |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Iron   | 12000                         |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Lead   | 140                           |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Selenium   | <10                           |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Zinc   | 160                           |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| <b>PCBs (mg/kg)</b>  |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Aroclor 1016   |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Aroclor 1221   |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Aroclor 1232   |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Aroclor 1242   |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Aroclor 1248   |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Aroclor 1254   |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Aroclor 1260   |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Aroclor 1262   |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Aroclor 1268   |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Polychlorinated biphenyls, Total                           |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| <b>TPH (mg/kg)</b>   |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| C6-C12   |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Over C12-C28   |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Over C28-C35   |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |
| Total Petroleum Hydrocarbons                               |                               |                                   |                                   |                                 |                                     |                                     |                                 |                                     |                                     |                                     |                                     |                                 |                                     |                                     |                                     |                                 |

**Notes:**  
<sup>1</sup> Samples analysed using field x-ray diffraction methods  
ft bgs = sample interval in feet below ground surface  
mg/kg = miligram per kilogram  
SU = Standard (pH) Units  
PCB = Polychlorinated Biphenyl  
TPH = Total Petroleum Hydrocarbons

**Laboratory Qualifiers:**  
J = Estimated value reported. In the majority of cases this represents a value less than the contract required quantitation limit, but greater than the method detection limit.  
U = Compound was analyzed for but not detected. The value shown in the laboratory method detection limit.



Table F-5  
 Soil Analytical Data - Ponds 5 and 6 Arroyo  
 Supplemental Remedial Investigation Report  
 Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH15-13<br>55 - 56<br>6/1/2001 | BH15-13<br>60 - 61<br>6/1/2001 | BH15-13<br>65 - 66<br>6/1/2001 | BH15-13<br>70 - 71<br>6/1/2001 | BH15-14<br>50 - 51<br>6/1/2001 | BH15-14<br>55 - 56<br>6/1/2001 | BH15-14<br>60 - 61<br>6/1/2001 | BH15-14<br>65 - 66<br>6/1/2001 | BH15-14<br>70 - 71<br>6/1/2001 | BH15-8<br>1 - 2<br>2/20/2001 | BH15-8<br>2 - 3<br>2/20/2001 | BH15-8<br>4 - 5<br>2/20/2001 | BH15-8<br>5 - 6<br>2/20/2001 | BH16-1<br>11 - 12<br>2/28/2001 | BH16-10<br>30 - 31<br>3/1/2001 | BH16-10<br>35 - 36<br>3/1/2001 | BH16-11<br>3 - 4<br>2/22/2001 | BH16-11<br>4 - 5<br>2/22/2001 | BH16-11<br>5 - 6<br>2/22/2001 | BH16-11<br>6 - 7<br>2/22/2001 | BH16-11<br>7 - 8<br>2/22/2001 | BH16-14<br>10 - 11<br>2/22/2001 | BH16-14<br>3 - 4<br>2/22/2001 | BH16-14<br>4 - 5<br>2/22/2001 | BH16-18<br>1 - 2<br>2/22/2001 | BH16-18<br>2 - 3<br>2/22/2001 | BH16-18<br>3 - 4<br>2/22/2001 |  |  |
|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--|--|
| <b>Metals (mg/kg)</b>                                      |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Antimony   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Arsenic  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Barium   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Cadmium  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Chromium   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Cobalt   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Copper   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Iron   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Lead   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Mercury  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Molybdenum   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Nickel   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Selenium   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Silver   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Thallium   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Zinc   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Arsenic  | 32                             | 29                             | 34                             | 35                             | 17                             | 19                             | 36                             | 34                             | 87                             | 20000                        | 900                          | 1900                         | 25                           | 43                             | 32                             | 33                             | 35                            | 240                           | 110                           | 69                            | 56                            | 75                              | 59                            | 59                            | 34                            | 130                           | 80                            |  |  |
| Cadmium  | <10                            | <10                            | <10                            | <10                            | 10                             | <10                            | 19                             | <10                            | 25                             | 890                          | 320                          | 310                          | 39                           | <10                            | <10                            | <10                            | <10                           | 33                            | 22                            | <10                           | <10                           | <10                             | 13                            | <10                           | <10                           | 18                            | 13                            |  |  |
| Chromium   | <80                            | <80                            | 82                             | 110                            | <80                            | <80                            | <80                            | <80                            | <80                            | <200                         | <200                         | <200                         | <200                         | <200                           | <200                           | <200                           | <200                          | <200                          | <200                          | <200                          | <200                          | <200                            | <200                          | <200                          | <200                          | <200                          | <200                          |  |  |
| Copper   | 70                             | <20                            | 27                             | 48                             | 12                             | 48                             | 27                             | 23                             | <20                            | 30000                        | 38000                        | 19000                        | 200                          | 71                             | 74                             | 130                            | 120                           | 2100                          | 860                           | 350                           | 87                            | 510                             | 880                           | 93                            | 82                            | 1400                          | 620                           |  |  |
| Iron   | 22000                          | 15000                          | 30000                          | 33000                          | 18000                          | 14000                          | 17000                          | 15000                          | 13000                          | 49000                        | 10000                        | 18000                        | 6600                         | 18000                          | 15000                          | 19000                          | 17000                         | 20000                         | 23000                         | 19000                         | 18000                         | 19000                           | 21000                         | 19000                         | 9500                          | 13000                         | 9500                          |  |  |
| Lead   | 42                             | 46                             | 38                             | 23                             | 31                             | 33                             | 32                             | 31                             | 28                             | 3700                         | 520                          | 1000                         | 45                           | 89                             | 95                             | 120                            | 190                           | 3500                          | 1100                          | 580                           | 100                           | 560                             | 750                           | 75                            | 88                            | 560                           | 470                           |  |  |
| Selenium   | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <40                          | <40                          | <40                          | <40                          | <40                            | <40                            | <40                            | <40                           | <40                           | <40                           | <40                           | <40                           | <40                             | <40                           | <40                           | <40                           | <40                           | <40                           |  |  |
| Zinc   | <10                            | <10                            | 45                             | 80                             | <10                            | <10                            | 55                             | 22                             | 360                            | 4100                         | 3700                         | 3900                         | 880                          | 63                             | 27                             | 45                             | 43                            | 450                           | 180                           | 110                           | 46                            | 350                             | 230                           | 57                            | 19                            | 220                           | 120                           |  |  |
| <b>TPH (mg/kg)</b>   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Total Petroleum Hydrocarbons                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| <b>VOCs (mg/kg)</b>  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Benzene  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Ethylbenzene   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Toluene  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Total Xylenes  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| 1,1,1-Trichloroethane                                      |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| 1,1,2-Trichloroethane                                      |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| 1,2-Dichlorobenzene  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| 4-Methyl-2-pentanone (MIBK)                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Acetone  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Carbon tetrachloride                                       |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Chlorobenzene  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Cyclohexane  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Cyclohexanone  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Dichlorodifluoromethane                                    |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Ethyl acetate  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Ethyl ether  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| m,p-Xylene   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Methanol   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Methylene chloride   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| n-Butyl alcohol  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| o-Xylene   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Tetrachloroethene  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Trichloroethene  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Trichlorofluoromethane                                     |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| <b>SVOCs (mg/kg)</b>                                       |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Hexachlorocyclopentadiene                                  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| <b>PCBs (mg/kg)</b>  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Aroclor 1016   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Aroclor 1221   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Aroclor 1232   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Aroclor 1242   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Aroclor 1248   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Aroclor 1254   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Aroclor 1260   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Aroclor 1262   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Aroclor 1268   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Polychlorinated biphenyls, Total                           |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| <b>Pesticides (mg/kg)</b>                                  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Chlordane  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Endrin   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Chlordane  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Endrin   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |
| Methyl parathion   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                              |                              |                              |                                |                                |                                |                               |                               |                               |                               |                               |                                 |                               |                               |                               |                               |                               |  |  |

Notes are included on Page 11.















**Table F-5**  
**Soil Analytical Data - Ponds 5 and 6 Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-88<br>0 - 0.5<br>6/17/1997 | EP-88<br>10 - 10<br>6/17/1997 | EP-88<br>15 - 15<br>6/17/1997 | EP-88<br>20 - 20<br>6/17/1997 | EP-88<br>25 - 25<br>6/17/1997 | EP-88<br>30 - 30<br>6/17/1997 | EP-88<br>35 - 35<br>6/17/1997 | EP-88<br>5 - 5<br>6/17/1997 | SSIA8-3<br>0 - 1<br>7/16/1997 | SSIA8-3<br>1.5 - 1.5<br>7/16/1997 | SSIA8-3<br>3 - 3<br>7/16/1997 | SSIA8-3<br>4 - 4<br>7/16/1997 | SSIA8-4<br>0 - 1<br>7/16/1997 | SSIA8-4<br>1.5 - 1.5<br>7/16/1997 | SSIA8-4<br>3 - 3<br>7/14/1997 | SSIA8-4<br>4 - 4<br>7/14/1997 | SSIA8-5<br>0 - 1<br>7/16/1997 | SSIA8-5<br>1.5 - 1.5<br>7/16/1997 | SSIA8-5<br>3 - 3<br>7/16/1997 | SSIA8-5<br>4 - 4<br>7/16/1997 | SSIA8-6<br>0 - 1<br>7/16/1997 | SSIA8-6<br>1.5 - 1.5<br>7/16/1997 | SSIA8-6<br>3 - 3<br>7/16/1997 | SSIA8-6<br>4 - 4<br>7/16/1997 | SSIA8-7<br>0 - 1<br>7/16/1997 | SSIA8-7<br>1.5 - 1.5<br>7/16/1997 | SSIA8-7<br>3 - 3<br>7/16/1997 |    |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|----|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Antimony   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Arsenic  | 550                           | <20                           | <20                           | <20                           | <20                           | <20                           | <20                           | 50                          | 2700                          | 170                               |                               |                               | <20                           | 3700                              |                               |                               |                               |                                   | 53                            | <20                           |                               | <20                               | <20                           |                               |                               | 51                                | <20                           |    |
| Barium   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Cadmium  | 150                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | 120                         | 660                           | 150                               |                               |                               | <10                           | 980                               |                               |                               |                               |                                   | 130                           | <10                           |                               | 23                                | 47                            |                               |                               | 96                                | 22                            |    |
| Chromium   | 200                           | 59                            | 55                            | <30                           | <30                           | 100                           | 70                            | 120                         | 130                           | 56                                |                               |                               | <30                           | <30                               |                               |                               |                               |                                   | 110                           | <30                           |                               | <30                               | 94                            |                               |                               | 59                                | <30                           |    |
| Cobalt   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Copper   | 5600                          | 38                            | <20                           | 76                            | 36                            | 30                            | <20                           | 2200                        | 1400                          | 1100                              |                               |                               | 660                           | 20000                             |                               |                               |                               |                                   | 1500                          | 170                           |                               | 400                               | 520                           |                               |                               | 980                               | 250                           |    |
| Iron   | 21000                         | 24000                         | 30000                         | 18000                         | 28000                         | 27000                         | 18000                         | 33000                       | 34000                         | 17000                             |                               |                               | 17000                         | 61000                             |                               |                               |                               |                                   | 18000                         | 16000                         |                               | 15000                             | 19000                         |                               |                               | 20000                             | 16000                         |    |
| Lead   | 3600                          | 35                            | 35                            | 58                            | 19                            | 18                            | <10                           | 2700                        | 420                           | 1000                              |                               |                               | 120                           | 43000                             |                               |                               |                               |                                   | 180                           | 130                           |                               | 690                               | 1000                          |                               |                               | 520                               | 300                           |    |
| Mercury  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Molybdenum   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Nickel   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Selenium   | 23                            | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                         | 66                            | <10                               |                               |                               | <10                           | 57                                |                               |                               |                               |                                   | <10                           | <10                           |                               | <10                               | <10                           |                               |                               | <10                               | <10                           |    |
| Silver   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Thallium   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Zinc   | 3100                          | 54                            | 95                            | 55                            | 49                            | 68                            | 42                            | 3200                        | 4600                          | 1800                              |                               |                               | 150                           | 21000                             |                               |                               |                               |                                   | 2300                          | 350                           |                               | 370                               | 470                           |                               |                               | 1100                              | 220                           |    |
| Arsenic  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   | 1100                          | 290                           |                               |                                   | 6600                          | 3100                          |                               |                                   | <20                           | <20                           |                               |                                   |                               |                               |                               | 58                                | 120                           | 31 |
| Cadmium  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   | 400                           | 79                            |                               |                                   | 1000                          | 530                           |                               |                                   | 28                            | <10                           |                               |                                   |                               |                               | 130                           | 110                               | 41                            |    |
| Chromium   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   | 110                           | 190                           |                               |                                   | 79                            | 140                           |                               |                                   | 150                           | 120                           |                               |                                   |                               | 97                            | 100                           |                                   | 200                           |    |
| Copper   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   | 7000                          | 3700                          |                               |                                   | 39000                         | 13000                         |                               |                                   | 1100                          | 170                           |                               |                                   |                               | 530                           | 2600                          |                                   | 380                           |    |
| Iron   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   | 29000                         | 18000                         |                               |                                   | 56000                         | 44000                         |                               |                                   | 19000                         | 16000                         |                               |                                   |                               | 20000                         | 22000                         |                                   | 15000                         |    |
| Lead   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   | 6800                          | 4700                          |                               |                                   | 71000                         | 22000                         |                               |                                   | 440                           | 50                            |                               |                                   |                               | 1700                          | 2400                          |                                   | 500                           |    |
| Selenium   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   | 40                            | <10                           |                               |                                   | 68                            | 23                            |                               |                                   | <10                           | <10                           |                               |                                   |                               | <10                           | <10                           |                                   | <10                           |    |
| Zinc   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   | 4800                          | 2200                          |                               |                                   | 26000                         | 11000                         |                               |                                   | 770                           | 250                           |                               |                                   |                               | 1100                          | 1300                          |                                   | 330                           |    |
| <b>TPH (mg/kg)</b>   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Total Petroleum Hydrocarbons                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| <b>VOCs (mg/kg)</b>  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Benzene  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Ethylbenzene   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Toluene  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Total Xylenes  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| 1,1,1-Trichloroethane                                      |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| 1,1,2-Trichloroethane                                      |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| 1,2-Dichlorobenzene  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Acetone  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Carbon tetrachloride                                       |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Chlorobenzene  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Cyclohexane  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Cyclohexanone  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Dichlorodifluoromethane                                    |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Ethyl acetate  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Ethyl ether  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| m,p-Xylene   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Methanol   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Methylene chloride   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| n-Butyl alcohol  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| o-Xylene   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Tetrachloroethene  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Trichloroethene  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Trichlorofluoromethane                                     |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Hexachlorocyclopentadiene                                  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| <b>SVOCs (mg/kg)</b>                                       |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Hexachlorocyclopentadiene                                  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| <b>PCBs (mg/kg)</b>  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Aroclor 1016   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Aroclor 1221   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Aroclor 1232   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Aroclor 1242   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Aroclor 1248   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Aroclor 1254   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Aroclor 1260   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Aroclor 1262   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Aroclor 1268   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Polychlorinated biphenyls, Total                           |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| <b>Pesticides (mg/kg)</b>                                  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Chlordane  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Endrin   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Chlordane  |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Endrin   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |
| Methyl parathion   |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |    |

Notes are included on Page 11.





**Table F-6**  
**Soil Analytical Data - Pond 1 Arroyo**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH14-2<br>0 - 1<br>12/16/1999 | BH14-2<br>1 - 1<br>12/16/1999 | BH14-2<br>10 - 10<br>12/16/1999 | BH14-2<br>15 - 15<br>12/16/1999 | BH14-2<br>2 - 2<br>12/16/1999 | BH14-2<br>20 - 20<br>12/16/1999 | BH14-2<br>25 - 25<br>12/16/1999 | BH14-2<br>3 - 3<br>12/16/1999 | BH14-2<br>30 - 30<br>12/16/1999 | BH14-2<br>35 - 35<br>12/16/1999 | BH14-2<br>4 - 4<br>12/16/1999 | BH14-2<br>40 - 40<br>12/16/1999 | BH14-2<br>45 - 45<br>12/16/1999 | BH14-2<br>50 - 50<br>12/16/1999 | BH14-2<br>55 - 55<br>12/16/1999 | BH14-2<br>60 - 60<br>12/16/1999 | BH14-3<br>0 - 1<br>12/15/1999 | BH14-3<br>1 - 1<br>12/15/1999 | BH14-3<br>10 - 10<br>12/15/1999 |
|--|-------------------------------|-------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|---------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Antimony   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Arsenic  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Barium   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Cadmium  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Chromium   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Cobalt   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Copper   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Iron   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Lead   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Mercury  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Molybdenum   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Nickel   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Selenium   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Silver   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Zinc   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Arsenic  | 210                           | 170                           | <10                             | <10                             | 210                           | 11                              | 17                              | 62                            | 10                              | 17                              | 210                           | 16                              | 26                              | <10                             | 16                              | <10                             | <10                           | 27                            | <10                             |
| Cadmium  | 130                           | 87                            | 12                              | <10                             | 140                           | <10                             | <10                             | 18                            | 12                              | <10                             | 18                            | <10                             | <10                             | 12                              | <10                             | <10                             | 16                            | <10                           | <10                             |
| Chromium   | 130                           | <80                           | <80                             | <80                             | <80                           | <80                             | <80                             | <80                           | <80                             | <80                             | <80                           | <80                             | <80                             | <80                             | <80                             | <80                             | <80                           | <80                           | <80                             |
| Copper   | 55000                         | 3300                          | 26                              | 25                              | 4400                          | 65                              | <20                             | 1500                          | 38                              | 34                              | 2400                          | 32                              | 32                              | 38                              | <20                             | <20                             | 1800                          | 520                           | 70                              |
| Iron   | 35000                         | 21000                         | 12000                           | 16000                           | 24000                         | 15000                           | 18000                           | 20000                         | 21000                           | 25000                           | 23000                         | 25000                           | 26000                           | 21000                           | 26000                           | 21000                           | 20000                         | 22000                         | 11000                           |
| Lead   | 1400                          | 2800                          | 26                              | <10                             | 4400                          | <10                             | 21                              | 510                           | 50                              | 48                              | 970                           | 47                              | 15                              | <10                             | 10                              | <10                             | 2600                          | 420                           | 74                              |
| Selenium   | 64                            | 15                            | <10                             | <10                             | 15                            | <10                             | <10                             | <10                           | <10                             | <10                             | <10                           | <10                             | <10                             | <10                             | <10                             | <10                             | <10                           | <10                           | <10                             |
| Zinc   | 2300                          | 1500                          | 16                              | 40                              | 1500                          | 29                              | 28                              | 190                           | 49                              | 43                              | 230                           | 60                              | 56                              | 34                              | 46                              | 50                              | 210                           | 68                            | 11                              |
| <b>TPH (mg/kg)</b>   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Total Petroleum Hydrocarbons                               |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| <b>VOCs (mg/kg)</b>  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Benzene  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Ethylbenzene   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Toluene  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Total Xylenes  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| 1,1,1-Trichloroethane                                      |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| 1,1,2-Trichloroethane                                      |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| 1,2-Dichlorobenzene  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Acetone  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Carbon tetrachloride                                       |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Chlorobenzene  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Cyclohexane  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Cyclohexanone  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Dichlorodifluoromethane                                    |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Ethyl acetate  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Ethyl ether  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Methanol   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Methylene chloride   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| n-Butyl alcohol  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Tetrachloroethene  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Trichloroethene  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Trichlorofluoromethane                                     |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| <b>SVOCs (mg/kg)</b>                                       |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Hexachlorocyclopentadiene                                  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| <b>Pesticides (mg/kg)</b>                                  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Chlordane  |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Endrin   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |
| Methyl parathion   |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                               |                               |                                 |

Notes are included on Page 13.



Table F-6  
Soil Analytical Data - Pond 1 Arroyo

Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH14-3<br>15 - 15<br>12/15/1999 | BH14-3<br>2 - 2<br>12/15/1999 | BH14-3<br>20 - 20<br>12/15/1999 | BH14-3<br>25 - 25<br>12/15/1999 | BH14-3<br>3 - 3<br>12/15/1999 | BH14-3<br>30 - 30<br>12/15/1999 | BH14-3<br>35 - 35<br>12/15/1999 | BH14-3<br>4 - 4<br>12/15/1999 | BH14-3<br>40 - 40<br>12/15/1999 | BH14-3<br>45 - 45<br>12/15/1999 | BH14-3<br>50 - 50<br>12/15/1999 | BH14-3<br>55 - 55<br>12/15/1999 | BH14-3<br>60 - 60<br>12/15/1999 | BH14-3<br>65 - 65<br>12/15/1999 | BH14-4<br>0 - 1<br>4/10/2001 | BH14-4<br>1 - 2<br>4/10/2001 | BH14-4<br>10 - 11<br>4/10/2001 | BH14-4<br>2 - 3<br>4/10/2001 | BH14-4<br>3 - 4<br>4/10/2001 |
|--|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|------------------------------|------------------------------|--------------------------------|------------------------------|------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Antimony   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Arsenic  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Barium   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Cadmium  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Chromium   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Cobalt   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Copper   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Iron   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Lead   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Mercury  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Molybdenum   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Nickel   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Selenium   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Silver   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Zinc   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Arsenic  | 43                              | <10                           | 19                              | 23                              | <10                           | 20                              | <10                             | <10                           | 11                              | <10                             | 12                              | <10                             | <10                             | <10                             | 670                          | 27                           | 11                             | 28                           | 19                           |
| Cadmium  | <10                             | <10                           | 11                              | <10                             | <10                           | <10                             | <10                             | <10                           | <10                             | <10                             | <10                             | 12                              | 13                              | <10                             | 140                          | 15                           | <10                            | 11                           | <10                          |
| Chromium   | 90                              | 82                            | <80                             | <80                             | <80                           | <80                             | <80                             | <80                           | <80                             | <80                             | <80                             | <80                             | <80                             | <80                             | <80                          | <80                          | <80                            | <80                          | <80                          |
| Copper   | 72                              | 73                            | <20                             | 61                              | 36                            | 55                              | 73                              | <20                           | 48                              | <20                             | 41                              | 34                              | 45                              | <20                             | 24000                        | 270                          | <20                            | 870                          | 160                          |
| Iron   | 29000                           | 18000                         | 21000                           | 24000                           | 16000                         | 23000                           | 19000                           | 14000                         | 26000                           | 20000                           | 21000                           | 20000                           | 15000                           | 13000                           | 31000                        | 8000                         | 8000                           | 8500                         | 7300                         |
| Lead   | 530                             | 250                           | 33                              | 62                              | 190                           | 31                              | 65                              | 65                            | 54                              | <10                             | <10                             | <10                             | <10                             | <10                             | 3800                         | 440                          | 36                             | 180                          | 70                           |
| Selenium   | <10                             | <10                           | <10                             | <10                             | <10                           | <10                             | <10                             | <10                           | <10                             | <10                             | <10                             | <10                             | <10                             | <10                             | 46                           | <20                          | <20                            | <20                          | <20                          |
| Zinc   | 74                              | 11                            | 36                              | 59                              | <10                           | 32                              | 27                              | 29                            | 54                              | 49                              | 32                              | 40                              | 21                              | 44                              | 2200                         | 190                          | <10                            | 59                           | 12                           |
| <b>TPH (mg/kg)</b>   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Total Petroleum Hydrocarbons                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| <b>VOCs (mg/kg)</b>  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Benzene  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Ethylbenzene   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Toluene  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Total Xylenes  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| 1,1,1-Trichloroethane                                      |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| 1,1,2-Trichloroethane                                      |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| 1,2-Dichlorobenzene  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| 4-Methyl-2-pentanone (MIBK)                                |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Acetone  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Carbon tetrachloride                                       |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Chlorobenzene  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Cyclohexane  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Cyclohexanone  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Dichlorodifluoromethane                                    |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Ethyl acetate  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Ethyl ether  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Methanol   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Methylene chloride   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| n-Butyl alcohol  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Tetrachloroethene  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Trichloroethene  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Trichlorofluoromethane                                     |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| <b>SVOCs (mg/kg)</b>                                       |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Hexachlorocyclopentadiene                                  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| <b>Pesticides (mg/kg)</b>                                  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Chlordane  |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Endrin   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |
| Methyl parathion   |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |                                 |                                 |                                 |                                 |                              |                              |                                |                              |                              |

Notes are included on Page 13.

Table F-6  
Soil Analytical Data - Pond 1 Arroyo

Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH14-4<br>4 - 5<br>4/10/2001 | BH14-5<br>0 - 1<br>4/10/2001 | BH14-5<br>1 - 2<br>4/10/2001 | BH14-5<br>10 - 11<br>4/10/2001 | BH14-5<br>3 - 4<br>4/10/2001 | BH14-5<br>4 - 5<br>4/10/2001 | BH14-6<br>0 - 1<br>4/16/2001 | BH14-6<br>1 - 2<br>4/16/2001 | BH14-6<br>10 - 11<br>4/16/2001 | BH14-6<br>2 - 3<br>4/16/2001 | BH14-6<br>3 - 4<br>4/16/2001 | BH14-6<br>4 - 5<br>4/16/2001 | BH18-1<br>0 - 1<br>3/6/2001 9:35:00 | BH18-1<br>1 - 2<br>3/6/2001 9:47:00 | BH18-1<br>2 - 3<br>3/6/2001 9:40:00 | BH18-1<br>3 - 4<br>3/6/2001 9:45:00 | BH18-1<br>4 - 5<br>3/6/2001 9:50:00 | BH18-2<br>1 - 2<br>3/6/2001 | BH18-2<br>2 - 3<br>3/6/2001 |  |
|--|------------------------------|------------------------------|------------------------------|--------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|--------------------------------|------------------------------|------------------------------|------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------------|-----------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Antimony   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Arsenic  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     | 27                          |                             |  |
| Barium   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Cadmium  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     | <10                         |                             |  |
| Chromium   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     | 46                          |                             |  |
| Cobalt   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Copper   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     | 27                          |                             |  |
| Iron   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     | 16040                       |                             |  |
| Lead   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     | 17                          |                             |  |
| Mercury  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Molybdenum   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Nickel   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Selenium   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     | <10                         |                             |  |
| Silver   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Zinc   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     | 87                          |                             |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Arsenic  | <10                          | 170                          | 100                          | <10                            | 310                          | 280                          | 130                          | 68                           | <10                            | 76                           | 21                           | 33                           | 240                                 | 44                                  | 64                                  | 22                                  | 48                                  | 93                          | 78                          |  |
| Cadmium  | <10                          | 110                          | 35                           | <10                            | 88                           | 66                           | 28                           | <10                          | <10                            | <10                          | <10                          | 11                           | 18                                  | <10                                 | <10                                 | <10                                 | <10                                 | <10                         | <10                         |  |
| Chromium   | <80                          | <80                          | <80                          | <80                            | <80                          | <80                          | 85                           | <80                          | <80                            | <80                          | <80                          | <80                          | 300                                 | <200                                | <200                                | <200                                | <200                                | <200                        | <200                        |  |
| Copper   | <20                          | 3400                         | 2000                         | <20                            | 3000                         | 2400                         | 5600                         | 560                          | <20                            | 2500                         | 120                          | 680                          | 1200                                | 32                                  | 160                                 | <20                                 | 53                                  | 100                         | <20                         |  |
| Iron   | 6200                         | 19000                        | 15000                        | 3400                           | 18000                        | 23000                        | 15000                        | 13000                        | 6400                           | 13000                        | 13000                        | 12000                        | 44000                               | 15000                               | 14000                               | 11000                               | 14000                               | 14000                       | 19000                       |  |
| Lead   | 14                           | 3200                         | 1300                         | 21                             | 3000                         | 2800                         | 950                          | 330                          | 15                             | 350                          | 46                           | 140                          | 610                                 | 51                                  | 90                                  | 33                                  | 56                                  | 80                          | 51                          |  |
| Selenium   | <20                          | <20                          | <20                          | <20                            | <20                          | <20                          | <20                          | <20                          | <20                            | <20                          | <20                          | <20                          | <40                                 | <40                                 | <40                                 | <40                                 | <40                                 | <40                         | <40                         |  |
| Zinc   | <10                          | 2100                         | 550                          | <10                            | 1300                         | 1300                         | 460                          | 66                           | <10                            | 150                          | 15                           | 48                           | 2200                                | 57                                  | 83                                  | 33                                  | 37                                  | 71                          | 46                          |  |
| <b>TPH (mg/kg)</b>   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Total Petroleum Hydrocarbons                               |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| <b>VOCs (mg/kg)</b>  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Benzene  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Ethylbenzene   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Toluene  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Total Xylenes  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| 1,1,1-Trichloroethane                                      |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| 1,1,2-Trichloroethane                                      |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| 1,2-Dichlorobenzene  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| 4-Methyl-2-pentanone (MIBK)                                |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Acetone  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Carbon tetrachloride                                       |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Chlorobenzene  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Cyclohexane  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Cyclohexanone  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Dichlorodifluoromethane                                    |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Ethyl acetate  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Ethyl ether  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Methanol   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Methylene chloride   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| n-Butyl alcohol  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Tetrachloroethene  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Trichloroethene  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Trichlorofluoromethane                                     |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| <b>SVOCs (mg/kg)</b>                                       |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Hexachlorocyclopentadiene                                  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| <b>Pesticides (mg/kg)</b>                                  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Chlordane  |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Endrin   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |
| Methyl parathion   |                              |                              |                              |                                |                              |                              |                              |                              |                                |                              |                              |                              |                                     |                                     |                                     |                                     |                                     |                             |                             |  |

Notes are included on Page 13.

Table F-6  
Soil Analytical Data - Pond 1 Arroyo

Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH18-2<br>3 - 4<br>3/6/2001 | BH18-2<br>4 - 5<br>3/6/2001 | BH18-2<br>5 - 6<br>3/6/2001 | BH8-4<br>0 - 1<br>11/2/1999 | BH8-4<br>1 - 2<br>11/2/1999 | BH8-4<br>10 - 12<br>11/2/1999 | BH8-4<br>15 - 17<br>11/2/1999 | BH8-4<br>2 - 3<br>11/2/1999 | BH8-4<br>20 - 22<br>11/2/1999 | BH8-4<br>25 - 27<br>11/2/1999 | BH8-4<br>3 - 4<br>11/2/1999 | BH8-4<br>30 - 32<br>11/2/1999 | BH8-4<br>35 - 37<br>11/2/1999 | BH8-4<br>4 - 5<br>11/2/1999 | BH8-4<br>40 - 42<br>11/2/1999 | BH8-4<br>45 - 47<br>11/2/1999 | BH8-4<br>50 - 52<br>11/2/1999 | BH8-4<br>55 - 57<br>11/2/1999 | BH8-4<br>60 - 62<br>11/2/1999 |
|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Antimony   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Arsenic  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Barium   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Cadmium  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Chromium   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Cobalt   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Copper   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Iron   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Lead   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Mercury  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Molybdenum   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Nickel   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Selenium   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Silver   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Zinc   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Arsenic  | 55                          | 25                          | 36                          | 6100                        | 210                         | 31                            | <10                           | 130                         | 11                            | 15                            | <10                         | 11                            | <10                           | <10                         | <10                           | <10                           | <10                           | <10                           | <10                           |
| Cadmium  | 10                          | <10                         | <10                         | 2600                        | 110                         | 48                            | <10                           | 170                         | <10                           | 11                            | 150                         | <10                           | <10                           | 170                         | <10                           | <10                           | <10                           | <10                           | <10                           |
| Chromium   | <200                        | <200                        | <200                        | 1800                        | 210                         | <80                           | <80                           | 100                         | <80                           | <80                           | <80                         | <80                           | <80                           | <80                         | <80                           | <80                           | <80                           | <80                           | <80                           |
| Copper   | 50                          | 27                          | 48                          | 49000                       | 760                         | <20                           | <20                           | 140                         | <20                           | 49                            | 26                          | <20                           | <20                           | <20                         | <20                           | <20                           | <20                           | <20                           | <20                           |
| Iron   | 17000                       | 14000                       | 14000                       | 51000                       | 14000                       | 34000                         | 23000                         | 14000                       | 25000                         | 23000                         | 18000                       | 23000                         | 25000                         | 18000                       | 13000                         | 21000                         | 12000                         | 11000                         | 11000                         |
| Lead   | 49                          | 36                          | 47                          | 29000                       | 550                         | 10                            | <10                           | 120                         | 18                            | 11                            | 26                          | <10                           | <10                           | 15                          | <10                           | 23                            | <10                           | <10                           | <10                           |
| Selenium   | <40                         | <40                         | <40                         | 270                         | <10                         | <10                           | <10                           | <10                         | <10                           | <10                           | <10                         | <10                           | 10                            | <10                         | <10                           | <10                           | <10                           | <10                           | <10                           |
| Zinc   | 43                          | 45                          | 30                          | 23000                       | 2300                        | 40                            | 34                            | 1900                        | 39                            | 60                            | 110                         | 31                            | 66                            | 12                          | 34                            | 33                            | 13                            | 23                            | 25                            |
| <b>TPH (mg/kg)</b>   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Total Petroleum Hydrocarbons                               |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| <b>VOCs (mg/kg)</b>  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Benzene  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Ethylbenzene   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Toluene  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Total Xylenes  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| 1,1,1-Trichloroethane                                      |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| 1,1,2-Trichloroethane                                      |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| 1,2-Dichlorobenzene  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| 4-Methyl-2-pentanone (MIBK)                                |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Acetone  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Carbon tetrachloride                                       |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Chlorobenzene  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Cyclohexane  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Cyclohexanone  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Dichlorodifluoromethane                                    |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Ethyl acetate  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Ethyl ether  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Methanol   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Methylene chloride   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| n-Butyl alcohol  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Tetrachloroethene  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Trichloroethene  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Trichlorofluoromethane                                     |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| <b>SVOCs (mg/kg)</b>                                       |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Hexachlorocyclopentadiene                                  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| <b>Pesticides (mg/kg)</b>                                  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Chlordane  |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Endrin   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |
| Methyl parathion   |                             |                             |                             |                             |                             |                               |                               |                             |                               |                               |                             |                               |                               |                             |                               |                               |                               |                               |                               |

Notes are included on Page 13.

Table F-6  
Soil Analytical Data - Pond 1 Arroyo

Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH8-4<br>65 - 67<br>11/2/1999 | EM-2<br>10 - 10<br>5/11/1990 | EM-2<br>15 - 15<br>5/11/1990 | EM-2<br>20 - 20<br>5/11/1990 | EM-2<br>25 - 25<br>5/11/1990 | EM-2<br>30 - 30<br>5/11/1990 | EM-2<br>35 - 35<br>5/11/1990 | EM-2<br>42 - 42<br>5/12/1990 | EM-2<br>46 - 46<br>5/12/1990 | EM-2<br>5 - 5<br>5/11/1990 | EM-2<br>50 - 50<br>5/12/1990 | EM-2<br>55 - 55<br>5/13/1990 | EM-2<br>60 - 60<br>5/13/1990 | EP-104<br>0 - 1<br>10/5/1999 | EP-104<br>1 - 2<br>10/5/1999 | EP-104<br>10 - 12<br>10/6/1999 | EP-104<br>15 - 17<br>10/6/1999 | EP-104<br>2 - 3<br>10/5/1999 | EP-104<br>20 - 22<br>10/6/1999 |
|--|-------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|--------------------------------|--------------------------------|------------------------------|--------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Antimony   |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Arsenic  |                               | <0.5                         | 0.7                          | 1                            | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                       | <0.5                         | <0.5                         | <0.5                         |                              |                              |                                |                                |                              |                                |
| Barium   |                               | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                          | <10                        | <10                          | <10                          | <10                          |                              |                              |                                |                                |                              |                                |
| Cadmium  |                               | <0.1                         | 0.6                          | 2.8                          | <0.1                         | <0.1                         | <0.1                         | <0.1                         | <0.1                         | <0.1                       | <0.1                         | <0.1                         | <0.1                         |                              |                              |                                |                                |                              |                                |
| Chromium   |                               | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                       | <0.5                         | <0.5                         | <0.5                         |                              |                              |                                |                                |                              |                                |
| Cobalt   |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Copper   |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Iron   |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Lead   |                               | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                       | <0.5                         | <0.5                         | <0.5                         |                              |                              |                                |                                |                              |                                |
| Mercury  |                               | <0.02                        | <0.02                        | <0.02                        | <0.02                        | <0.02                        | <0.02                        | <0.02                        | <0.02                        | <0.02                      | <0.02                        | <0.02                        | <0.02                        |                              |                              |                                |                                |                              |                                |
| Molybdenum   |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Nickel   |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Selenium   |                               | <0.1                         | <0.1                         | <0.1                         | <0.1                         | <0.1                         | <0.1                         | <0.1                         | <0.1                         | <0.1                       | <0.1                         | <0.1                         | <0.1                         |                              |                              |                                |                                |                              |                                |
| Silver   |                               | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                         | <0.5                       | <0.5                         | <0.5                         | <0.5                         |                              |                              |                                |                                |                              |                                |
| Zinc   |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Arsenic  | <10                           |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              | 110                          | 10                           | <10                            | <10                            | 46                           | 16                             |
| Cadmium  | <10                           |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              | 36                           | <10                          | <10                            | <10                            | 63                           | <10                            |
| Chromium   | <80                           |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              | <80                          | <80                          | <80                            | <80                            | <80                          | <80                            |
| Copper   | 21                            |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              | 6700                         | 380                          | 24                             | 25                             | 4700                         | 20                             |
| Iron   | 13000                         |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              | 25000                        | 16000                        | 11000                          | 20000                          | 24000                        | 23000                          |
| Lead   | <10                           |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              | 2800                         | 190                          | 60                             | 55                             | 1900                         | 50                             |
| Selenium   | <10                           |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              | <10                          | <10                          | <10                            | <10                            | <10                          | <10                            |
| Zinc   | 32                            |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              | 1700                         | 140                          | <10                            | 48                             | 1700                         | 44                             |
| <b>TPH (mg/kg)</b>   |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Total Petroleum Hydrocarbons                               |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| <b>VOCs (mg/kg)</b>  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Benzene  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Ethylbenzene   |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Toluene  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Total Xylenes  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| 1,1,1-Trichloroethane                                      |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| 1,1,2-Trichloroethane                                      |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| 1,2-Dichlorobenzene  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Acetone  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Carbon tetrachloride                                       |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Chlorobenzene  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Cyclohexane  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Cyclohexanone  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Dichlorodifluoromethane                                    |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Ethyl acetate  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Ethyl ether  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Methanol   |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Methylene chloride   |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| n-Butyl alcohol  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Tetrachloroethene  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Trichloroethene  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Trichlorofluoromethane                                     |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| <b>SVOCs (mg/kg)</b>                                       |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Hexachlorocyclopentadiene                                  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| <b>Pesticides (mg/kg)</b>                                  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Chlordane  |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Endrin   |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |
| Methyl parathion   |                               |                              |                              |                              |                              |                              |                              |                              |                              |                            |                              |                              |                              |                              |                              |                                |                                |                              |                                |

Notes are included on Page 13.

Table F-6  
Soil Analytical Data - Pond 1 Arroyo

Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-104<br>25 - 27<br>10/6/1999 | EP-104<br>3 - 4<br>10/6/1999 | EP-104<br>30 - 32<br>10/6/1999 | EP-104<br>35 - 37<br>10/6/1999 | EP-104<br>4 - 5<br>10/6/1999 | EP-104<br>40 - 42<br>10/6/1999 | EP-104<br>45 - 47<br>10/6/1999 | EP-104<br>50 - 52<br>10/6/1999 | EP-104<br>55 - 57<br>10/6/1999 | EP-104<br>60 - 62<br>10/6/1999 | EP-104<br>65 - 67<br>10/6/1999 | EP-105<br>0 - 1<br>10/7/1999 | EP-105<br>1 - 2<br>10/7/1999 | EP-105<br>10 - 12<br>10/7/1999 | EP-105<br>15 - 17<br>10/7/1999 | EP-105<br>2 - 3<br>10/7/1999 | EP-105<br>20 - 22<br>10/7/1999 | EP-105<br>25 - 27<br>10/7/1999 | EP-105<br>3 - 4<br>10/7/1999 |
|--|--------------------------------|------------------------------|--------------------------------|--------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------|------------------------------|--------------------------------|--------------------------------|------------------------------|--------------------------------|--------------------------------|------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Antimony   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Arsenic  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Barium   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Cadmium  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Chromium   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Cobalt   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Copper   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Iron   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Lead   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Mercury  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Molybdenum   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Nickel   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Selenium   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Silver   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Zinc   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Arsenic  | <10                            | 16                           | 20                             | <10                            | <10                          | 20                             | <10                            | 16                             | <10                            | <10                            | <10                            | 42                           | 1600                         | 170                            | <10                            | 2400                         | 11                             | 14                             | 1100                         |
| Cadmium  | <10                            | 12                           | <10                            | <10                            | <10                          | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                          | 600                          | 17                             | <10                            | 120                          | <10                            | <10                            | 39                           |
| Chromium   | <80                            | <80                          | <80                            | <80                            | <80                          | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                          | <80                          | <80                            | 120                            | <80                          | <80                            | <80                            | <80                          |
| Copper   | <20                            | 990                          | 23                             | 36                             | 200                          | 49                             | 53                             | 69                             | 33                             | <20                            | <20                            | 130                          | 16000                        | 2200                           | <20                            | 17000                        | 86                             | 31                             | 19000                        |
| Iron   | 25000                          | 21000                        | 29000                          | 25000                          | 15000                        | 33000                          | 24000                          | 27000                          | 22000                          | 18000                          | 19000                          | 17000                        | 47000                        | 53000                          | 8900                           | 60000                        | 23000                          | 27000                          | 50000                        |
| Lead   | 47                             | 580                          | 27                             | 41                             | 220                          | 24                             | 42                             | 44                             | 46                             | 37                             | 39                             | 76                           | 13000                        | 480                            | 130                            | 10000                        | 55                             | 48                             | 1900                         |
| Selenium   | <10                            | <10                          | <10                            | <10                            | <10                          | <10                            | 10                             | <10                            | <10                            | <10                            | <10                            | <10                          | 120                          | <10                            | <10                            | 72                           | <10                            | <10                            | 13                           |
| Zinc   | 31                             | 620                          | 45                             | 32                             | 170                          | 36                             | 35                             | 50                             | 25                             | 32                             | 25                             | 70                           | 7400                         | 320                            | 35                             | 6400                         | 40                             | 53                             | 5700                         |
| <b>TPH (mg/kg)</b>   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Total Petroleum Hydrocarbons                               |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| <b>VOCs (mg/kg)</b>  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Benzene  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Ethylbenzene   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Toluene  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Total Xylenes  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| 1,1,1-Trichloroethane                                      |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| 1,1,2-Trichloroethane                                      |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| 1,2-Dichlorobenzene  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| 4-Methyl-2-pentanone (MIBK)                                |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Acetone  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Carbon tetrachloride                                       |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Chlorobenzene  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Cyclohexane  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Cyclohexanone  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Dichlorodifluoromethane                                    |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Ethyl acetate  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Ethyl ether  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Methanol   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Methylene chloride   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| n-Butyl alcohol  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Tetrachloroethene  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Trichloroethene  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Trichlorofluoromethane                                     |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| <b>SVOCs (mg/kg)</b>                                       |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Hexachlorocyclopentadiene                                  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| <b>Pesticides (mg/kg)</b>                                  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Chlordane  |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Endrin   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |
| Methyl parathion   |                                |                              |                                |                                |                              |                                |                                |                                |                                |                                |                                |                              |                              |                                |                                |                              |                                |                                |                              |

Notes are included on Page 13.

Table F-6  
Soil Analytical Data - Pond 1 Arroyo

Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-105<br>30 - 32<br>10/7/1999 | EP-105<br>35 - 37<br>10/7/1999 | EP-105<br>4 - 5<br>10/7/1999 | EP-105<br>40 - 42<br>10/7/1999 | EP-105<br>45 - 47<br>10/7/1999 | EP-105<br>50 - 52<br>10/8/1999 | EP-105<br>55 - 57<br>10/8/1999 | EP-105<br>60 - 62<br>10/8/1999 | EP-105<br>75 - 77<br>10/8/1999 | EP-106<br>0 - 1<br>10/16/1999 | EP-106<br>1 - 2<br>10/16/1999 | EP-106<br>10 - 12<br>10/16/1999 | EP-106<br>15 - 17<br>10/16/1999 | EP-106<br>2 - 3<br>10/16/1999 | EP-106<br>20 - 22<br>10/16/1999 | EP-106<br>25 - 27<br>10/16/1999 | EP-106<br>3 - 4<br>10/16/1999 | EP-106<br>30 - 32<br>10/16/1999 | EP-106<br>35 - 37<br>10/16/1999 |  |
|--|--------------------------------|--------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Antimony   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Arsenic  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Barium   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Cadmium  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Chromium   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Cobalt   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Copper   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Iron   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Lead   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Mercury  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Molybdenum   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Nickel   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Selenium   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Silver   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Zinc   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Arsenic  | <10                            | 13                             | 410                          | 17                             | <10                            | 21                             | <10                            | <10                            | <10                            | 270                           | 75                            | 23                              | 21                              | 54                            | <10                             | <10                             | 92                            | 24                              | 17                              |  |
| Cadmium  | <10                            | <10                            | 59                           | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | 82                            | 26                            | <10                             | <10                             | <10                           | <10                             | <10                             | 28                            | <10                             | <10                             |  |
| Chromium   | <80                            | 80                             | <80                          | <80                            | <80                            | <80                            | 92                             | <80                            | <80                            | 85                            | <80                           | <80                             | <80                             | <80                           | <80                             | <80                             | <80                           | <80                             | <80                             |  |
| Copper   | 33                             | <20                            | 20000                        | 68                             | 47                             | 29                             | 34                             | <20                            | <20                            | 3700                          | 930                           | 27                              | 23                              | 450                           | 39                              | 28                              | 520                           | 36                              | 46                              |  |
| Iron   | 26000                          | 24000                          | 84000                        | 23000                          | 23000                          | 30000                          | 20000                          | 16000                          | 16000                          | 24000                         | 26000                         | 23000                           | 29000                           | 23000                         | 25000                           | 22000                           | 22000                         | 33000                           | 25000                           |  |
| Lead   | 47                             | 51                             | 680                          | 39                             | 42                             | 40                             | 47                             | 40                             | 46                             | 2800                          | 720                           | 57                              | 34                              | 470                           | 43                              | 48                              | 590                           | 27                              | 38                              |  |
| Selenium   | <10                            | <10                            | <10                          | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                           | <10                           | <10                             | <10                             | <10                           | <10                             | <10                             | <10                           | <10                             | <10                             |  |
| Zinc   | 37                             | 60                             | 3000                         | 31                             | 33                             | 47                             | 33                             | 36                             | 14                             | 1800                          | 370                           | 31                              | 40                              | 250                           | 59                              | 31                              | 370                           | 53                              | 46                              |  |
| <b>TPH (mg/kg)</b>   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Total Petroleum Hydrocarbons                               |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| <b>VOCs (mg/kg)</b>  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Benzene  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Ethylbenzene   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Toluene  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Total Xylenes  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| 1,1,1-Trichloroethane                                      |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| 1,1,2-Trichloroethane                                      |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| 1,2-Dichlorobenzene  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| 4-Methyl-2-pentanone (MIBK)                                |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Acetone  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Carbon tetrachloride                                       |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Chlorobenzene  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Cyclohexane  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Cyclohexanone  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Dichlorodifluoromethane                                    |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Ethyl acetate  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Ethyl ether  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Methanol   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Methylene chloride   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| n-Butyl alcohol  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Tetrachloroethene  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Trichloroethene  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Trichlorofluoromethane                                     |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| <b>SVOCs (mg/kg)</b>                                       |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Hexachlorocyclopentadiene                                  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| <b>Pesticides (mg/kg)</b>                                  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Chlordane  |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Endrin   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |
| Methyl parathion   |                                |                                |                              |                                |                                |                                |                                |                                |                                |                               |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |                                 |  |

Notes are included on Page 13.

Table F-6  
Soil Analytical Data - Pond 1 Arroyo

Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-106<br>4 - 5<br>10/16/1999 | EP-106<br>40 - 42<br>10/16/1999 | EP-106<br>45 - 47<br>10/16/1999 | EP-106<br>50 - 52<br>10/16/1999 | EP-106<br>55 - 57<br>10/16/1999 | EP-68<br>0 - 0.5<br>5/29/1997 | EP-68<br>10 - 10<br>5/29/1997 | EP-68<br>15 - 15<br>5/29/1997 | EP-68<br>20 - 20<br>5/29/1997 | EP-68<br>25 - 25<br>5/29/1997 | EP-68<br>30 - 30<br>5/29/1997 | EP-68<br>40 - 40<br>5/29/1997 | EP-68<br>45 - 45<br>5/29/1997 | EP-68<br>5 - 5<br>5/29/1997 | EP-68<br>65 - 65<br>5/29/1997 | EP-69<br>0 - 0.5<br>5/30/1997 | EP-69<br>15 - 15<br>5/30/1997 | EP-69<br>20 - 20<br>5/30/1997 | EP-69<br>25 - 25<br>5/30/1997 |  |
|--|-------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Antimony   |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Arsenic  |                               |                                 |                                 |                                 |                                 | <20                           | <20                           | <20                           | <20                           | <20                           | 21                            | <20                           | <20                           | <20                         | <20                           | 650                           | 40                            | <20                           | <20                           |  |
| Barium   |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Cadmium  |                               |                                 |                                 |                                 |                                 | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                         | <10                           | 150                           | <10                           | <10                           | <10                           |  |
| Chromium   |                               |                                 |                                 |                                 |                                 | <30                           | 130                           | 65                            | 37                            | 61                            | <30                           | 85                            | 32                            | <30                         | <30                           | 86                            | <30                           | 68                            | <30                           |  |
| Cobalt   |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Copper   |                               |                                 |                                 |                                 |                                 | 580                           | <20                           | <20                           | <20                           | 32                            | 22                            | <20                           | <20                           | 49                          | 54                            | 9900                          | 34                            | <20                           | <20                           |  |
| Iron   |                               |                                 |                                 |                                 |                                 | 17000                         | 16000                         | 21000                         | 13000                         | 25000                         | 24000                         | 17000                         | 30000                         | 17000                       | 14000                         | 37000                         | 20000                         | 20000                         | 28000                         |  |
| Lead   |                               |                                 |                                 |                                 |                                 | 140                           | 18                            | 33                            | 14                            | 24                            | 11                            | <10                           | <10                           | 29                          | 34                            | 6100                          | 53                            | 11                            | 20                            |  |
| Mercury  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Molybdenum   |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Nickel   |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Selenium   |                               |                                 |                                 |                                 |                                 | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                         | <10                           | 16                            | <10                           | <10                           | <10                           |  |
| Silver   |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Zinc   |                               |                                 |                                 |                                 |                                 | 82                            | 22                            | 53                            | 37                            | 47                            | 36                            | 40                            | 49                            | 35                          | 42                            | 3800                          | 360                           | 32                            | 57                            |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Arsenic  | 380                           | 22                              | 25                              | <10                             | <10                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Cadmium  | 130                           | <10                             | <10                             | <10                             | 11                              |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Chromium   | <80                           | <80                             | <80                             | <80                             | <80                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Copper   | 320                           | <20                             | <20                             | 20                              | <20                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Iron   | 22000                         | 29000                           | 30000                           | 21000                           | 17000                           |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Lead   | 490                           | 27                              | 25                              | 32                              | 25                              |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Selenium   | <10                           | <10                             | <10                             | <10                             | <10                             |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Zinc   | 920                           | 29                              | 27                              | 26                              | 10                              |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| <b>TPH (mg/kg)</b>   |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Total Petroleum Hydrocarbons                               |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| <b>VOCs (mg/kg)</b>  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Benzene  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Ethylbenzene   |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Toluene  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Total Xylenes  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| 1,1,1-Trichloroethane                                      |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| 1,1,2-Trichloroethane                                      |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| 1,2-Dichlorobenzene  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Acetone  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Carbon tetrachloride                                       |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Chlorobenzene  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Cyclohexane  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Cyclohexanone  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Dichlorodifluoromethane                                    |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Ethyl acetate  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Ethyl ether  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Methanol   |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Methylene chloride   |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| n-Butyl alcohol  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Tetrachloroethene  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Trichloroethene  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Trichlorofluoromethane                                     |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| <b>SVOCs (mg/kg)</b>                                       |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Hexachlorocyclopentadiene                                  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| <b>Pesticides (mg/kg)</b>                                  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Chlordane  |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Endrin   |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |
| Methyl parathion   |                               |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                               |                               |  |

Notes are included on Page 13.

**Table F-6**  
**Soil Analytical Data - Pond 1 Arroyo**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-69<br>30 - 30<br>5/30/1997 | EP-69<br>5 - 5<br>5/30/1997 | SS-01<br>5.5 - 6<br>5/9/2006 | SS-02<br>5.5 - 6<br>5/9/2006 | SS-03<br>5.5 - 6<br>5/9/2006 | SS-04<br>5.5 - 6<br>5/9/2006 | SS-05<br>5.5 - 6<br>5/9/2006 | SS-06<br>5.5 - 6<br>5/9/2006 | SSIA8-1<br>0 - 1<br>7/16/1997 | SSIA8-1<br>1.5 - 1.5<br>7/16/1997 | SSIA8-1<br>3 - 3<br>7/16/1997 | SSIA8-10<br>0 - 1<br>7/17/1997 | SSIA8-10<br>1.5 - 1.5<br>7/17/1997 | SSIA8-10<br>3 - 3<br>7/17/1997 | SSIA8-10<br>4 - 4<br>7/17/1997 | SSIA8-11<br>0 - 1<br>7/17/1997 | SSIA8-11<br>1.5 - 1.5<br>7/17/1997 | SSIA8-11<br>3 - 3<br>7/17/1997 | SSIA8-11<br>4 - 4<br>7/17/1997 |
|--|-------------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|-----------------------------------|-------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Antimony   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Arsenic  | <20                           | 28                          | 57.3                         | 81                           | 7.77                         | 49.2                         | 88.4                         | 70                           | 240                           | 2100                              |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Barium   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Cadmium  | <10                           | <10                         |                              |                              |                              |                              |                              |                              | 33                            | 400                               |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Chromium   | 43                            | <30                         |                              |                              |                              |                              |                              |                              | 58                            | 120                               |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Cobalt   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Copper   | <20                           | 96                          |                              |                              |                              |                              |                              |                              | 140                           | 4300                              |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Iron   | 27000                         | 17000                       |                              |                              |                              |                              |                              |                              | 17000                         | 86000                             |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Lead   | 26                            | 120                         | 70.4                         | 114                          | 16.7                         | 51.7                         | 160                          | 175                          | 44                            | 1500                              |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Mercury  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Molybdenum   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Nickel   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Selenium   | <10                           | <10                         |                              |                              |                              |                              |                              |                              | <10                           | 26                                |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Silver   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Zinc   | 48                            | 100                         |                              |                              |                              |                              |                              |                              | 470                           | 8100                              |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Arsenic  |                               |                             | 93                           | 163                          | <87                          | <115                         | <98                          | <94                          |                               |                                   | 800                           | <20                            | 53                                 | <20                            | <20                            | 910                            | 62                                 | <20                            | <20                            |
| Cadmium  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   | 99                            | 13                             | 66                                 | 25                             | 28                             | 430                            | 86                                 | <10                            | <10                            |
| Chromium   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   | 200                           | <30                            | 90                                 | 79                             | <30                            | 33                             | 31                                 | 150                            | 76                             |
| Copper   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   | 3000                          | 160                            | 750                                | 520                            | 220                            | 20000                          | 2700                               | 62                             | 400                            |
| Iron   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   | 140000                        | 10000                          | 18000                              | 16000                          | 14000                          | 24000                          | 11000                              | 7000                           | 7000                           |
| Lead   |                               |                             | 96                           | 131                          | 98                           | <100                         | 99                           | 165                          |                               |                                   | 10000                         | 68                             | 1400                               | 810                            | 660                            | 3200                           | 3700                               | 36                             | 230                            |
| Selenium   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   | 40                            | <10                            | <10                                | <10                            | <10                            | 31                             | 10                                 | <10                            | <10                            |
| Zinc   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   | 17000                         | 130                            | 890                                | 620                            | 380                            | 6300                           | 1100                               | 25                             | 98                             |
| <b>TPH (mg/kg)</b>   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Total Petroleum Hydrocarbons                               |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| <b>VOCs (mg/kg)</b>  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Benzene  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Ethylbenzene   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Toluene  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Total Xylenes  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| 1,1,1-Trichloroethane                                      |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| 1,1,2-Trichloroethane                                      |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| 1,2-Dichlorobenzene  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Acetone  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Carbon tetrachloride                                       |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Chlorobenzene  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Cyclohexane  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Cyclohexanone  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Dichlorodifluoromethane                                    |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Ethyl acetate  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Ethyl ether  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Methanol   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Methylene chloride   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| n-Butyl alcohol  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Tetrachloroethene  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Trichloroethene  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Trichlorofluoromethane                                     |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| <b>SVOCs (mg/kg)</b>                                       |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Hexachlorocyclopentadiene                                  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| <b>Pesticides (mg/kg)</b>                                  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Chlordane  |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Endrin   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |
| Methyl parathion   |                               |                             |                              |                              |                              |                              |                              |                              |                               |                                   |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |

Notes are included on Page 13.



Table F-6  
Soil Analytical Data - Pond 1 Arroyo

Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SSIA8-12<br>0 - 1<br>7/17/1997 | SSIA8-12<br>1.5 - 1.5<br>7/17/1997 | SSIA8-12<br>3 - 3<br>7/17/1997 | SSIA8-12<br>4 - 4<br>7/17/1997 | SSIA8-13<br>0 - 1<br>7/17/1997 | SSIA8-13<br>1.5 - 1.5<br>7/17/1997 | SSIA8-13<br>3 - 3<br>7/17/1997 | SSIA8-13<br>4 - 4<br>7/17/1997 | SSIA8-14<br>0 - 1<br>7/17/1997 | SSIA8-14<br>1.5 - 1.5<br>7/17/1997 | SSIA8-14<br>3 - 3<br>7/17/1997 | SSIA8-15<br>0 - 1<br>7/18/1997 | SSIA8-15<br>1.5 - 1.5<br>7/18/1997 | SSIA8-15<br>3 - 3<br>7/18/1997 | SSIA8-15<br>4 - 4<br>7/18/1997 | SSIA8-16<br>0 - 1<br>7/18/1997 | SSIA8-16<br>1.5 - 1.5<br>7/18/1997 | SSIA8-16<br>3 - 3<br>7/18/1997 | SSIA8-16<br>4 - 4<br>7/18/1997 |       |
|--|--------------------------------|------------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|-------|
| <b>Metals (mg/kg)</b>                                      |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Antimony   |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Arsenic  |                                |                                    |                                |                                |                                |                                    |                                |                                | <20                            | 110                                |                                | <20                            | <20                                |                                |                                | 930                            | 370                                |                                |                                |       |
| Barium   |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Cadmium  |                                |                                    |                                |                                |                                |                                    |                                |                                | <10                            | 25                                 |                                | 11                             | 14                                 |                                |                                | 240                            | 190                                |                                |                                |       |
| Chromium   |                                |                                    |                                |                                |                                |                                    |                                |                                | 55                             | 350                                |                                | 45                             | 31                                 |                                |                                | 120                            | 92                                 |                                |                                |       |
| Cobalt   |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Copper   |                                |                                    |                                |                                |                                |                                    |                                |                                | 280                            | 4900                               |                                | 1600                           | 1900                               |                                |                                | 22000                          | 9500                               |                                |                                |       |
| Iron   |                                |                                    |                                |                                |                                |                                    |                                |                                | 13000                          | 150000                             |                                | 13000                          | 16000                              |                                |                                | 31000                          | 26000                              |                                |                                |       |
| Lead   |                                |                                    |                                |                                |                                |                                    |                                |                                | 83                             | 1200                               |                                | 160                            | 900                                |                                |                                | 4000                           | 10000                              |                                |                                |       |
| Mercury  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Molybdenum   |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Nickel   |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Selenium   |                                |                                    |                                |                                |                                |                                    |                                |                                | <10                            | 23                                 |                                | <10                            | <10                                |                                |                                | 31                             | 27                                 |                                |                                |       |
| Silver   |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Zinc   |                                |                                    |                                |                                |                                |                                    |                                |                                | 93                             | 13000                              |                                | 370                            | 480                                |                                |                                | 5000                           | 4000                               |                                |                                |       |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Arsenic  | 150                            | 480                                | 32                             | <20                            | 33                             | <20                                | <20                            | <20                            |                                |                                    | 120                            |                                |                                    |                                | <20                            | 83                             |                                    |                                | 1100                           | 1200  |
| Cadmium  | 78                             | 78                                 | 23                             | <10                            | <10                            | 49                                 | <10                            | 45                             |                                |                                    | 20                             |                                |                                    |                                | <10                            | 92                             |                                    |                                | 120                            | 520   |
| Chromium   | 36                             | 66                                 | 230                            | 200                            | <30                            | 72                                 | 170                            | 120                            |                                |                                    | 370                            |                                |                                    |                                | 92                             | 160                            |                                    |                                | 50                             | <30   |
| Copper   | 5100                           | 8300                               | 1500                           | 31                             | 980                            | 8300                               | 480                            | 130                            |                                |                                    | 5800                           |                                |                                    |                                | 210                            | 14000                          |                                    |                                | 4400                           | 3100  |
| Iron   | 17000                          | 32000                              | 16000                          | 19000                          | 13000                          | 26000                              | 18000                          | 19000                          |                                |                                    | 180000                         |                                |                                    |                                | 13000                          | 19000                          |                                    |                                | 40000                          | 52000 |
| Lead   | 3600                           | 4900                               | 1100                           | 38                             | 230                            | 3100                               | 190                            | 98                             |                                |                                    | 2900                           |                                |                                    |                                | 100                            | 8900                           |                                    |                                | 3500                           | 5000  |
| Selenium   | <10                            | <10                                | <10                            | <10                            | <10                            | <10                                | <10                            | <10                            |                                |                                    | 14                             |                                |                                    |                                | <10                            | 72                             |                                    |                                | 17                             | 50    |
| Zinc   | 2300                           | 2400                               | 760                            | 12                             | 250                            | 2000                               | 230                            | 180                            |                                |                                    | 25000                          |                                |                                    |                                | 200                            | 2200                           |                                    |                                | 3600                           | 3900  |
| <b>TPH (mg/kg)</b>   |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Total Petroleum Hydrocarbons                               |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| <b>VOCs (mg/kg)</b>  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Benzene  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Ethylbenzene   |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Toluene  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Total Xylenes  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| 1,1,1-Trichloroethane                                      |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| 1,1,2-Trichloroethane                                      |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| 1,2-Dichlorobenzene  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| 4-Methyl-2-pentanone (MIBK)                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Acetone  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Carbon tetrachloride                                       |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Chlorobenzene  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Cyclohexane  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Cyclohexanone  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Dichlorodifluoromethane                                    |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Ethyl acetate  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Ethyl ether  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Methanol   |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Methylene chloride   |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| n-Butyl alcohol  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Tetrachloroethene  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Trichloroethene  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Trichlorofluoromethane                                     |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| <b>SVOCs (mg/kg)</b>                                       |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Hexachlorocyclopentadiene                                  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| <b>Pesticides (mg/kg)</b>                                  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Chlordane  |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Endrin   |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |
| Methyl parathion   |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |       |

Notes are included on Page 13.

Table F-6  
Soil Analytical Data - Pond 1 Arroyo

Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SSIA8-17<br>0 - 1<br>7/18/1997 | SSIA8-17<br>1.5 - 1.5<br>7/18/1997 | SSIA8-17<br>3 - 3<br>7/18/1997 | SSIA8-17<br>4 - 4<br>7/18/1997 | SSIA8-18<br>0 - 1<br>7/18/1997 | SSIA8-18<br>1.5 - 1.5<br>7/18/1997 | SSIA8-19<br>0 - 1<br>7/18/1997 | SSIA8-19<br>1.5 - 1.5<br>7/18/1997 | SSIA8-19<br>3 - 3<br>7/18/1997 | SSIA8-19<br>4 - 4<br>7/18/1997 | SSIA8-2<br>0 - 1<br>7/16/1997 | SSIA8-2<br>1.5 - 1.5<br>7/16/1997 | SSIA8-2<br>3 - 3<br>7/16/1997 | SSIA8-2<br>4 - 4<br>7/16/1997 | SSIA8-20<br>0 - 1<br>7/18/1997 | SSIA8-20<br>1.5 - 1.5<br>7/18/1997 | SSIA8-21<br>0 - 1<br>7/18/1997 | SSIA8-21<br>1.5 - 1.5<br>7/18/1997 | SSIA8-21<br>3 - 3<br>7/18/1997 |
|--|--------------------------------|------------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|--------------------------------|------------------------------------|--------------------------------|------------------------------------|--------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Antimony   |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Arsenic  | 98                             | <20                                |                                |                                | 260                            | <20                                | 44                             | <20                                |                                |                                | <20                           | <20                               |                               |                               | <20                            | 330                                | 460                            | 780                                |                                |
| Barium   |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Cadmium  | 29                             | <10                                |                                |                                | 100                            | 99                                 | <10                            | <10                                |                                |                                | 35                            | 11                                |                               |                               | <10                            | 89                                 | 300                            | 110                                |                                |
| Chromium   | 30                             | 59                                 |                                |                                | <30                            | 77                                 | 76                             | 48                                 |                                |                                | 58                            | <30                               |                               |                               | 64                             | 230                                | 59                             | 100                                |                                |
| Cobalt   |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Copper   | 3700                           | 710                                |                                |                                | 890                            | 3700                               | 1200                           | 560                                |                                |                                | 440                           | 530                               |                               |                               | 200                            | 10000                              | 12000                          | 19000                              |                                |
| Iron   | 15000                          | 18000                              |                                |                                | 13000                          | 21000                              | 15000                          | 18000                              |                                |                                | 17000                         | 18000                             |                               |                               | 12000                          | 120000                             | 20000                          | 27000                              |                                |
| Lead   | 470                            | 380                                |                                |                                | 300                            | 3600                               | 350                            | 560                                |                                |                                | 240                           | 500                               |                               |                               | 95                             | 3900                               | 1400                           | 2900                               |                                |
| Mercury  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Molybdenum   |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Nickel   |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Selenium   | <10                            | <10                                |                                |                                | <10                            | <10                                | <10                            | <10                                |                                |                                | <10                           | <10                               |                               |                               | <10                            | 38                                 | 21                             | 15                                 |                                |
| Silver   |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Zinc   | 680                            | 440                                |                                |                                | 790                            | 2600                               | 280                            | 470                                |                                |                                | 510                           | 340                               |                               |                               | 130                            | 15000                              | 5900                           | 3200                               |                                |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Arsenic  |                                |                                    | 27                             | <20                            |                                |                                    |                                |                                    | <20                            | <20                            |                               |                                   | 880                           | 770                           |                                |                                    |                                | 23                                 |                                |
| Cadmium  |                                |                                    | <10                            | 11                             |                                |                                    |                                |                                    | <10                            | 220                            |                               |                                   | 38                            | 37                            |                                |                                    |                                | <10                                |                                |
| Chromium   |                                |                                    | 150                            | 74                             |                                |                                    |                                |                                    | 160                            | 41                             |                               |                                   | 290                           | 72                            |                                |                                    |                                | <30                                |                                |
| Copper   |                                |                                    | 2100                           | 260                            |                                |                                    |                                |                                    | 430                            | 11000                          |                               |                                   | 1600                          | 1500                          |                                |                                    |                                | 500                                |                                |
| Iron   |                                |                                    | 20000                          | 13000                          |                                |                                    |                                |                                    | 18000                          | 31000                          |                               |                                   | 160000                        | 170000                        |                                |                                    |                                | 9000                               |                                |
| Lead   |                                |                                    | 520                            | 240                            |                                |                                    |                                |                                    | 290                            | 14000                          |                               |                                   | 8900                          | 10000                         |                                |                                    |                                | 150                                |                                |
| Selenium   |                                |                                    | <10                            | <10                            |                                |                                    |                                |                                    | <10                            | 14                             |                               |                                   | <10                           | <10                           |                                |                                    |                                | <10                                |                                |
| Zinc   |                                |                                    | 730                            | 170                            |                                |                                    |                                |                                    | 410                            | 7200                           |                               |                                   | 24000                         | 28000                         |                                |                                    |                                | 170                                |                                |
| <b>TPH (mg/kg)</b>   |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Total Petroleum Hydrocarbons                               |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| <b>VOCs (mg/kg)</b>  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Benzene  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Ethylbenzene   |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Toluene  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Total Xylenes  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| 1,1,1-Trichloroethane                                      |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| 1,1,2-Trichloroethane                                      |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| 1,2-Dichlorobenzene  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| 4-Methyl-2-pentanone (MIBK)                                |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Acetone  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Carbon tetrachloride                                       |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Chlorobenzene  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Cyclohexane  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Cyclohexanone  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Dichlorodifluoromethane                                    |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Ethyl acetate  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Ethyl ether  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Methanol   |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Methylene chloride   |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| n-Butyl alcohol  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Tetrachloroethene  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Trichloroethene  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Trichlorofluoromethane                                     |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| <b>SVOCs (mg/kg)</b>                                       |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Hexachlorocyclopentadiene                                  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| <b>Pesticides (mg/kg)</b>                                  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Chlordane  |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Endrin   |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |
| Methyl parathion   |                                |                                    |                                |                                |                                |                                    |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                    |                                |                                    |                                |

Notes are included on Page 13.

**Table F-6**  
**Soil Analytical Data - Pond 1 Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SSIA8-21<br>4 - 4<br>7/18/1997 | SSIA8-22<br>0 - 1<br>7/18/1997 | SSIA8-22<br>1.5 - 1.5<br>7/18/1997 | SSIA8-22<br>3 - 3<br>7/18/1997 | SSIA8-22<br>4 - 4<br>7/18/1997 | SSIA8-23<br>0 - 1<br>7/18/1997 | SSIA8-23<br>1.5 - 1.5<br>7/18/1997 | SSIA8-23<br>3 - 3<br>7/18/1997 | SSIA8-23<br>4 - 4<br>7/18/1997 | SSIA8-9<br>0 - 1<br>7/16/1997 | SSIA8-9<br>1.5 - 1.5<br>7/16/1997 | SSIA8-9<br>3 - 3<br>7/16/1997 | SSIA8-9<br>4 - 4<br>7/16/1997 | BB-SB01<br>0 - 0.5<br>8/8/2011 | BB-SB01<br>1 - 1.5<br>8/8/2011 | BB-SB01<br>3 - 3.5<br>8/8/2011 | BB-SB01<br>4.5 - 5<br>8/8/2011 | BB-SB02<br>0 - 0.5<br>8/8/2011 | BB-SB02<br>1 - 1.5<br>8/8/2011 |
|--|--------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                |                                |                                |                                |                                |
| Antimony   |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | 42                             | <0.295                         | <0.314                         | <0.294                         | 3.7                            | 2.51 J                         |
| Arsenic  |                                | 6600                           | 2600                               |                                |                                | 140                            | <20                                |                                |                                | 1000                          | 530                               |                               |                               | 499                            | 4.18                           | 3.24                           | 5.96                           | 36                             | 21.1                           |
| Barium   |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | 197                            | 145                            | 129                            | 177                            | 61.9                           | 561                            |
| Cadmium  |                                | 1400                           | 600                                |                                |                                | 29                             | 21                                 |                                |                                | 310                           | 270                               |                               |                               | 117                            | 0.435 J                        | 0.342 J                        | 0.445 J                        | 5.9                            | 1.84                           |
| Chromium   |                                | 110                            | 45                                 |                                |                                | 97                             | 65                                 |                                |                                | 120                           | <30                               |                               |                               | 8.11                           | 5.29                           | 5.34                           | 6.39                           | 3.32                           | 2.83                           |
| Cobalt   |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | 15.4                           | 3.52                           | 3.48                           | 4.3                            | 1.96                           | 5.28                           |
| Copper   |                                | 23000                          | 2900                               |                                |                                | 820                            | 570                                |                                |                                | 22000                         | 7300                              |                               |                               | 10500                          | 16.5 J                         | 10.1 J                         | 11.9                           | 165                            | 376                            |
| Iron   |                                | 56000                          | 24000                              |                                |                                | 12000                          | 15000                              |                                |                                | 54000                         | 30000                             |                               |                               | 17100                          | 8490                           | 8160                           | 9710                           | 4990                           | 8590                           |
| Lead   |                                | 8100                           | 1500                               |                                |                                | 590                            | 490                                |                                |                                | 8900                          | 11000                             |                               |                               | 6680 J                         | 9.72 J                         | 6.02 J                         | 7.79                           | 223                            | 207                            |
| Mercury  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | 1.95                           | 0.0319 J                       | <0.00954                       | <0.0141                        | 0.0432 J                       | 1.46                           |
| Molybdenum   |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | 70.5                           | 0.317 J                        | 0.242 J                        | 0.411 J                        | 2.97                           | 1.05 J                         |
| Nickel   |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | 28.2                           | 7.11                           | 7.21                           | 8.69                           | 3.6                            | 7.13                           |
| Selenium   |                                | 53                             | 24                                 |                                |                                | <10                            | <10                                |                                |                                | 35                            | 37                                |                               |                               | 13.7                           | <0.219                         | <0.233                         | 0.326 J                        | 1.8                            | 0.6 J                          |
| Silver   |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | 61.7                           | <0.122                         | <0.129                         | <0.121                         | 2.04                           | 8.67                           |
| Zinc   |                                | 7600                           | 2300                               |                                |                                | 1500                           | 420                                |                                |                                | 8000                          | 5100                              |                               |                               | 3610                           | 22.8                           | 20.4                           | 25                             | 116                            | 131                            |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                |                                |                                |                                |                                |
| Arsenic  | <20                            |                                |                                    | 1800                           | 160                            |                                |                                    | 29                             | <20                            |                               |                                   |                               | 180                           | <20                            |                                |                                |                                |                                |                                |
| Cadmium  | 14                             |                                |                                    | 260                            | 42                             |                                |                                    | <10                            | <10                            |                               |                                   |                               | 76                            | 19                             |                                |                                |                                |                                |                                |
| Chromium   | 45                             |                                |                                    | 89                             | <30                            |                                |                                    | 30                             | 78                             |                               |                                   |                               | 75                            | <30                            |                                |                                |                                |                                |                                |
| Copper   | 310                            |                                |                                    | 610                            | <20                            |                                |                                    | 410                            | 68                             |                               |                                   |                               | 3800                          | 840                            |                                |                                |                                |                                |                                |
| Iron   | 11000                          |                                |                                    | 22000                          | 14000                          |                                |                                    | 14000                          | 16000                          |                               |                                   |                               | 29000                         | 21000                          |                                |                                |                                |                                |                                |
| Lead   | 480                            |                                |                                    | 350                            | 13                             |                                |                                    | 370                            | 50                             |                               |                                   |                               | 4600                          | 1300                           |                                |                                |                                |                                |                                |
| Selenium   | <10                            |                                |                                    | 15                             | <10                            |                                |                                    | <10                            | <10                            |                               |                                   |                               | 12                            | <10                            |                                |                                |                                |                                |                                |
| Zinc   | 220                            |                                |                                    | 1600                           | 160                            |                                |                                    | 370                            | 64                             |                               |                                   |                               | 1600                          | 470                            |                                |                                |                                |                                |                                |
| <b>TPH (mg/kg)</b>   |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                |                                |                                |                                |                                |
| Total Petroleum Hydrocarbons                               |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                |                                |                                |                                |                                |
| <b>VOCs (mg/kg)</b>  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                |                                |                                |                                |                                |
| Benzene  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                |                                |                                |                                |                                |
| Ethylbenzene   |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.00022                       | <0.000211                      | <0.000203                      | <0.000138                      | <0.000208                      | <0.000375 UJ                   |
| Toluene  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                |                                |                                |                                |                                |
| Total Xylenes  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.00036                       | 0.000457 J                     | 0.000372 J                     | 0.000262 J                     | 0.000394 J                     | <0.000613 UJ                   |
| 1,1,1-Trichloroethane                                      |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.0007                        | <0.000671                      | <0.000644                      | <0.000439                      | <0.000663                      | <0.00119 UJ                    |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.00067                       | <0.000643                      | <0.000617                      | <0.00042                       | <0.000634                      | <0.00114 UJ                    |
| 1,1,2-Trichloroethane                                      |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.0005                        | <0.00048                       | <0.00046                       | <0.000314                      | <0.000473                      | <0.000852 UJ                   |
| 1,2-Dichlorobenzene  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.00025                       | <0.00024                       | <0.00023                       | <0.000157                      | <0.000237                      | <0.000426 UJ                   |
| 4-Methyl-2-pentanone (MIBK)                                |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.00093                       | <0.000892                      | <0.000856                      | <0.000583                      | <0.00088                       | <0.00158 UJ                    |
| Acetone  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.0072                        | <0.00691                       | <0.00663                       | <0.00451                       | <0.00681                       | <0.0123 UJ                     |
| Carbon tetrachloride                                       |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.00051                       | <0.000489                      | <0.00047                       | <0.00032                       | <0.000483                      | <0.000869 UJ                   |
| Chlorobenzene  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.00023                       | <0.000221                      | <0.000212                      | <0.000144                      | <0.000218                      | <0.000392 UJ                   |
| Cyclohexane  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.00099                       | <0.00095                       | <0.000911                      | <0.000621                      | <0.000937                      | <0.00169 UJ                    |
| Cyclohexanone  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                |                                |                                |                                |                                |
| Dichlorodifluoromethane                                    |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.00073                       | <0.0007                        | <0.000672                      | <0.000458                      | <0.000691                      | <0.00124 UJ                    |
| Ethyl acetate  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.0012                        | <0.00115                       | <0.0011                        | <0.000752                      | <0.00114                       | <0.00204 UJ                    |
| Ethyl ether  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.00017                       | <0.000163                      | <0.000157                      | <0.000107                      | <0.000161                      | <0.00029 UJ                    |
| Methanol   |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <1.11                          | <1.15                          | <1.14                          | <1.25                          | <1.11                          | <1.26                          |
| Methylene chloride   |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.005                         | <0.0048                        | <0.0046                        | <0.00314                       | <0.00473                       | <0.00852 UJ                    |
| n-Butyl alcohol  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.409                         | <0.421                         | <0.42                          | <0.457                         | <0.406                         | <0.462                         |
| Tetrachloroethene  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.00074                       | <0.00071                       | <0.000681                      | <0.000464                      | <0.0007                        | <0.00126 UJ                    |
| Trichloroethene  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.00028                       | <0.000269                      | <0.000258                      | <0.000176                      | <0.000265                      | <0.000477 UJ                   |
| Trichlorofluoromethane                                     |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.0005                        | <0.00048                       | <0.00046                       | <0.000314                      | <0.000473                      | <0.000852 UJ                   |
| <b>SVOCs (mg/kg)</b>                                       |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                |                                |                                |                                |                                |
| Hexachlorocyclopentadiene                                  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.108                         | <0.111                         | <0.112                         | <0.122                         | <0.106                         | <0.121                         |
| <b>Pesticides (mg/kg)</b>                                  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               |                                |                                |                                |                                |                                |                                |
| Chlordane  |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.00399 UJ                    | <0.00206 UJ                    | <0.00207 UJ                    | <0.00226 UJ                    | <0.0101 UJ                     | <0.00226 UJ                    |
| Endrin   |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.000177 UJ                   | <0.0000912 UJ                  | <0.0000919 UJ                  | <0.0001 UJ                     | <0.00045 UJ                    | <0.0001 UJ                     |
| Methyl parathion   |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                               |                                   |                               |                               | <0.0091                        | <0.00937                       | <0.00938                       | <0.0101                        | <0.00898                       | <0.0102                        |

Notes are included on Page 13.

**Table F-6**  
**Soil Analytical Data - Pond 1 Arroyo**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BB-SB02<br>3 - 3.5<br>8/8/2011 | BB-SB02<br>4.5 - 5<br>8/8/2011 | UB-SB03<br>0 - 0.5<br>8/8/2011 | UB-SB03<br>1 - 1.5<br>8/8/2011 | UB-SB03<br>3 - 3.5<br>8/8/2011 | UB-SB03<br>4.5 - 5<br>8/8/2011 | UB-SB04<br>0 - 0.5<br>8/9/2011 | UB-SB04<br>1 - 1.5<br>8/9/2011 | UB-SS01<br>0.5 - 0.5<br>10/24/2011 | UB-SS02<br>0.5 - 0.5<br>10/24/2011 |
|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------------|------------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Antimony   | 5.81                           | 3.78                           | 50.3                           | 0.292 J                        | <0.282                         | <0.301                         | 6.34                           | 27.9                           | 79.9 J                             | 11.8 J                             |
| Arsenic  | 184                            | 58.1                           | 969                            | 3.88                           | 2.66                           | 3.16                           | 11.3                           | 71.7                           | 447                                | 70.6                               |
| Barium   | 538                            | 432                            | 165 J                          | 36.9 J                         | 39.9 J                         | 54.8                           | 47.7                           | 61.7                           | 195                                | 91.1                               |
| Cadmium  | 15                             | 7.69                           | 470                            | 0.927                          | 0.242 J                        | 0.222 J                        | 6.05                           | 38.4                           | 93.5                               | 16.1                               |
| Chromium   | 3.4                            | 5.6                            | 10.4                           | 2.18                           | 3.16                           | 2.69                           | 5.31                           | 5.69                           | 24.7                               | 10.5 J                             |
| Cobalt   | 9.26                           | 6.55                           | 32.6                           | 1.79                           | 2.07                           | 2.25                           | 2.42                           | 3.68                           | 46.4 J                             | 3.45 J                             |
| Copper   | 2460                           | 1940                           | 25100                          | 38.3 J                         | 7.37 J                         | 5.49 J                         | 77.1                           | 590                            | 19200                              | 644                                |
| Iron   | 27000                          | 12100                          | 29400 J                        | 4030 J                         | 4500 J                         | 4880                           | 5890                           | 7110                           | 49400                              | 7870                               |
| Lead   | 656                            | 1080                           | 10400 J                        | 25 J                           | 10.8 J                         | 15.8 J                         | 146                            | 988                            | 4730 J                             | 162                                |
| Mercury  | 1.07                           | 1.23                           | 5.35                           | <0.0115                        | 0.0133 J                       | 0.0296 J                       | 0.174                          | 0.409                          | 1.51 J                             | 0.384                              |
| Molybdenum   | 4.87                           | 3.06                           | 65.9                           | 0.301 J                        | 0.182 J                        | 0.171 J                        | 1.46 J                         | 5.87                           | 163                                | 7.99 J                             |
| Nickel   | 9.05                           | 11.1                           | 51.6                           | 2.71                           | 3.37                           | 3.75                           | 5.25                           | 15                             | 26.6 J                             | 8.17 J                             |
| Selenium   | 1.06 J                         | 1.38                           | 20.6                           | <0.177                         | <0.209                         | <0.223                         | 1.35                           | 3.43                           | 17 J                               | <3.48                              |
| Silver   | 24.6                           | 44.5                           | 103                            | 0.128 J                        | <0.116                         | <0.124                         | 1.18                           | 7.16                           | 61 J                               | 2.37 J                             |
| Zinc   | 341                            | 283                            | 6920                           | 18.3                           | 12.1                           | 12.6                           | 158                            | 538                            | 3440                               | 123                                |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Arsenic  |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Cadmium  |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Chromium   |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Copper   |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Iron   |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Lead   |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Selenium   |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Zinc   |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| <b>TPH (mg/kg)</b>   |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Total Petroleum Hydrocarbons                               |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| <b>VOCs (mg/kg)</b>  |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Benzene  |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Ethylbenzene   | <0.000263 UJ                   | 0.000995 J                     | <0.000269 UJ                   | <0.0002                        | <0.00022                       | <0.000226                      | <0.000194                      | <0.000176                      | 0.000746 J                         | 0.000426 J                         |
| Toluene  |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Total Xylenes  | <0.000431 UJ                   | 0.00328 J                      | <0.000441 UJ                   | <0.000327                      | <0.00036                       | 0.0006 J                       | <0.000317                      | <0.000288                      | 0.00117 J                          | <0.000398                          |
| 1,1,1-Trichloroethane                                      | <0.000838 UJ                   | <0.00117 UJ                    | <0.000857 UJ                   | <0.000636                      | <0.0007                        | <0.000721                      | <0.000617                      | <0.000559                      | <0.000682                          | <0.000774                          |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      | <0.000802 UJ                   | <0.00112 UJ                    | <0.00082 UJ                    | <0.000608                      | <0.00067                       | <0.00069                       | <0.00059                       | <0.000535                      | <0.000653                          | <0.000741                          |
| 1,1,2-Trichloroethane                                      | <0.000599 UJ                   | <0.000837 UJ                   | <0.000612 UJ                   | <0.000454                      | <0.0005                        | <0.000515                      | <0.00044                       | <0.0004                        | <0.000487                          | <0.000553                          |
| 1,2-Dichlorobenzene  | <0.000299 UJ                   | <0.000418 UJ                   | <0.000306 UJ                   | <0.000227                      | <0.00025                       | <0.000257                      | <0.00022                       | <0.0002                        | <0.000244                          | <0.000276                          |
| 4-Methyl-2-pentanone (MIBK)                                | <0.00111 UJ                    | <0.00156 UJ                    | <0.00114 UJ                    | <0.000844                      | <0.000929                      | <0.000957                      | <0.000819                      | <0.000743                      | <0.000906                          | <0.00103                           |
| Acetone  | 0.0181 J                       | <0.012 UJ                      | <0.00881 UJ                    | <0.00654                       | <0.0072                        | <0.00741                       | <0.00634                       | <0.00575                       | <0.00702                           | <0.00796                           |
| Carbon tetrachloride                                       | <0.000611 UJ                   | <0.000853 UJ                   | <0.000624 UJ                   | <0.000463                      | <0.00051                       | <0.000525                      | <0.000449                      | <0.000408                      | <0.000497                          | <0.000564                          |
| Chlorobenzene  | <0.000275 UJ                   | <0.000385 UJ                   | <0.000282 UJ                   | <0.000209                      | <0.00023                       | <0.000237                      | <0.000203                      | <0.000184                      | <0.000224                          | <0.000254                          |
| Cyclohexane  | <0.00119 UJ                    | <0.00166 UJ                    | <0.00121 UJ                    | <0.000899                      | <0.000989                      | <0.00102                       | <0.000872                      | <0.000791                      |                                    |                                    |
| Cyclohexanone  |                                |                                |                                |                                |                                |                                |                                |                                | <0.00292                           | <0.00332                           |
| Dichlorodifluoromethane                                    | <0.000874 UJ                   | <0.00122 UJ                    | <0.000894 UJ                   | <0.000663                      | <0.00073                       | <0.000751                      | <0.000643                      | <0.000583                      | <0.000711                          | <0.000807                          |
| Ethyl acetate  | <0.00144 UJ                    | <0.00201 UJ                    | <0.00147 UJ                    | <0.00109                       | <0.0012                        | <0.00124                       | <0.00106                       | <0.000959                      | <0.00117                           | <0.00133                           |
| Ethyl ether  | <0.000204 UJ                   | <0.000284 UJ                   | <0.000208 UJ                   | <0.000154                      | <0.00017                       | <0.000175                      | <0.00015                       | <0.000136                      | <0.000166                          | <0.000188                          |
| Methanol   | <1.13                          | <1.31                          | <1.11                          | <1.06                          | <1.06                          | <1.07                          | <0.978                         | <1.14                          | <1.07                              | <1.07                              |
| Methylene chloride   | <0.00599 UJ                    | <0.00837 UJ                    | <0.00612 UJ                    | <0.00454                       | <0.005                         | <0.00515                       | <0.0044                        | <0.004                         | 0.00673 J                          | <0.00553                           |
| n-Butyl alcohol  | <0.415                         | <0.479                         | <0.408                         | <0.387                         | <0.387                         | <0.394                         | <0.359                         | <0.417                         | <0.393                             | <0.392                             |
| Tetrachloroethene  | <0.000886 UJ                   | <0.00124 UJ                    | <0.000906 UJ                   | <0.000672                      | <0.00074                       | <0.000762                      | <0.000652                      | <0.000591                      | <0.000721                          | <0.000818                          |
| Trichloroethene  | <0.000335 UJ                   | <0.000469 UJ                   | <0.000343 UJ                   | <0.000254                      | <0.00028                       | <0.000288                      | <0.000247                      | <0.000224                      | <0.000273                          | <0.00031                           |
| Trichlorofluoromethane                                     | <0.000599 UJ                   | <0.000837 UJ                   | <0.000612 UJ                   | <0.000454                      | <0.0005                        | <0.000515                      | <0.00044                       | <0.0004                        | <0.000487                          | <0.000553                          |
| <b>SVOCs (mg/kg)</b>                                       |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Hexachlorocyclopentadiene                                  | <0.108                         | <0.126                         | <0.107                         | <0.104                         | <0.103                         | <0.105                         | <0.111                         | <0.110                         | <0.103                             | <0.101                             |
| <b>Pesticides (mg/kg)</b>                                  |                                |                                |                                |                                |                                |                                |                                |                                |                                    |                                    |
| Chlordane  | <0.00206 UJ                    | <0.00237 UJ                    | <0.0101                        | <0.00192                       | <0.00192                       | <0.00191 UJ                    | <0.0021 UJ                     | <0.00403 UJ                    | <0.038                             | <0.0194                            |
| Endrin   | <0.0000913 UJ                  | <0.000105 UJ                   | <0.000447                      | <0.000085                      | <0.0000849                     | <0.0000845 UJ                  | <0.0000928 UJ                  | <0.000179 UJ                   | <0.00168                           | <0.000858                          |
| Methyl parathion   | <0.00917                       | <0.0107                        | <0.0089                        | <0.00858                       | <0.00856                       | <0.00865                       | <0.00945                       | <0.00911                       | <0.00867                           | <0.00862                           |

**Notes:**

<sup>1</sup> Samples analysed using field x-ray diffraction methods  
ft bgs = sample interval in feet below ground surface  
mg/kg = milligram per kilogram  
SU = Standard (pH) Units  
SVOC = Semivolatile Organic Compound  
VOC = Volatile Organic Compound

**Laboratory Qualifiers:**

J = Estimated value reported. In the majority of cases this represents a value less than the contract required quantitation limit, but greater than the method detection limit.  
U = Compound was analyzed for but not detected. The value shown in the laboratory method detection limit.

**Table F-7**  
**Soil Analytical Data - South Terrace Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | Area 14-1<br>0 - 1<br>10/25/2007 | Area 14-1<br>1 - 2<br>10/25/2007 | Area 14-1<br>2 - 3<br>10/25/2007 | Area 14-1<br>3 - 4<br>10/25/2007 | Area 14-1<br>4 - 5<br>10/25/2007 | Area 14-1<br>5 - 6<br>10/25/2007 | Area 14-1<br>6 - 7<br>10/25/2007 | Area 14-1<br>7 - 8<br>10/25/2007 | Area 14-2<br>0 - 1<br>10/25/2007 | Area 14-2<br>1 - 2<br>10/25/2007 | Area 14-2<br>2 - 3<br>10/25/2007 | Area 14-2<br>3 - 4<br>10/25/2007 | Area 14-2<br>4 - 5<br>10/25/2007 | Area 14-2<br>5 - 6<br>10/25/2007 | Area 14-2<br>6 - 7<br>10/25/2007 | Area 14-2<br>7 - 8<br>10/25/2007 | BH14-1<br>13.2 - 15<br>11/5/1999 | BH14-1<br>15 - 17<br>11/5/1999 |
|--|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|--------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Antimony   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Arsenic  | 46.2                             | 11.2                             | <2                               | 7.73                             | 19                               | 8.68                             | <2                               | <2                               | 310                              | 6.05                             | 36.7                             | 2.59                             | 40.5                             | 3.28                             | <2                               | <2                               |                                  |                                |
| Barium   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Cadmium  | 11.9                             | 1.85                             | <0.2                             | 3.1                              | 1.7                              | 0.356                            | 0.212                            | <0.2                             | 12.1                             | 20.6                             | 3.89                             | 2.23                             | 2.74                             | 0.294                            | <0.2                             | <0.2                             |                                  |                                |
| Chromium   | 5.22                             | 3.64                             | 5                                | 4.3                              | 6.13                             | 6.85                             | 3.42                             | 2.29                             | 5.75                             | 5.44                             | 4.39                             | 3.88                             | 4.07                             | 3.79                             | 3.38                             | 2.77                             |                                  |                                |
| Cobalt   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Copper   | 2520                             | 328                              | 6.64                             | 510                              | 350                              | 7.56                             | 3.65                             | 3.58                             | 12200                            | 8360                             | 4360                             | 123                              | 2270                             | 34.7                             | 5.52                             | 3.08                             |                                  |                                |
| Iron   | 8550                             | 5770                             | 5550                             | 5450                             | 10000                            | 9390                             | 5550                             | 4370                             | 43200                            | 6580                             | 10100                            | 5240                             | 9290                             | 6280                             | 4650                             | 4290                             |                                  |                                |
| Lead   | 215                              | 49                               | <1                               | 30.2                             | 40                               | 7.02                             | 5.63                             | <1                               | 780                              | 14.8                             | 111                              | 6.3                              | 103                              | 9.12                             | 4.25                             | 4.73                             |                                  |                                |
| Mercury  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Molybdenum   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Nickel   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Selenium   | <2                               | <2                               | <2                               | <2                               | <2                               | <2                               | <2                               | <2                               | <2                               | <2                               | <2                               | <2                               | <2                               | <2                               | <2                               | <2                               |                                  |                                |
| Silver   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Zinc   | 312                              | 49.7                             | 12.6                             | 105                              | 62.4                             | 23.3                             | 12.6                             | 11                               | 273                              | 760                              | 175                              | 52.3                             | 108                              | 21.2                             | 13                               | 11                               |                                  |                                |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Arsenic  | 360                              |                                  | <110                             |                                  |                                  |                                  |                                  | <110                             | 380                              |                                  | 320                              |                                  |                                  | <140                             |                                  |                                  | 100                              | 110                            |
| Cadmium  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 84                               | 92                             |
| Chromium   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | <80                              | <80                            |
| Copper   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 100                              | <20                            |
| Iron   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 11000                            | 13000                          |
| Lead   | 330                              |                                  | <110                             |                                  |                                  |                                  |                                  | <110                             | 260                              |                                  | <100                             |                                  |                                  | <140                             |                                  |                                  | 31                               | 20                             |
| Selenium   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | <10                              | <10                            |
| Zinc   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 210                              | 300                            |
| <b>VOCs (mg/kg)</b>  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| 1,1,1-Trichloroethane                                      |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| 1,1,2-Trichloroethane                                      |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| 1,2-Dichlorobenzene  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| 4-Methyl-2-pentanone (MIBK)                                |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Acetone  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Carbon tetrachloride                                       |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Chlorobenzene  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Cyclohexane  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Dichlorodifluoromethane                                    |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Ethyl acetate  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Ethyl ether  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Ethylbenzene   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Methanol   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Methylene Chloride   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| n-Butyl alcohol  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Tetrachloroethene  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Total Xylenes  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Trichloroethene  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Trichlorofluoromethane                                     |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| <b>SVOCs (mg/kg)</b>                                       |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Hexachlorocyclopentadiene                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| <b>Pesticides (mg/kg)</b>                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Chlordane  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Endrin   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |
| Methyl parathion   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                |

Notes are included on Page 10.

**Table F-7**  
**Soil Analytical Data - South Terrace Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH14-1<br>20 - 22<br>11/5/1999 | BH14-1<br>25 - 27<br>11/5/1999 | BH14-1<br>30 - 32<br>11/5/1999 | BH14-1<br>35 - 37<br>11/5/1999 | BH14-1<br>40 - 42<br>11/5/1999 | BH14-1<br>45 - 47<br>11/5/1999 | BH14-1<br>50 - 52<br>11/5/1999 | BH14-1<br>55 - 57<br>11/5/1999 | BH14-1<br>60 - 62<br>11/5/1999 | BH14-1<br>65 - 67<br>11/8/1999 | BH14-1<br>70 - 72<br>11/8/1999 | BH8-1<br>31 - 33<br>10/29/1999 | BH8-1<br>35 - 37<br>10/29/1999 | BH8-1<br>40 - 42<br>10/30/1999 | BH8-1<br>45 - 47<br>10/30/1999 | BH8-1<br>50 - 52<br>10/30/1999 | BH8-1<br>55 - 57<br>10/30/1999 | BH8-1<br>60 - 62<br>10/30/1999 |
|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Antimony   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Arsenic  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Barium   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Cadmium  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Chromium   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Cobalt   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Copper   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Iron   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Lead   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Mercury  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Molybdenum   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Nickel   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Selenium   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Silver   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Zinc   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Arsenic  | 150                            | 36                             | 12                             | <10                            | 16                             | <10                            | <10                            | <10                            | 40                             | <10                            | <10                            | 41                             | 19                             | 12                             | <10                            | <10                            | <10                            | <10                            |
| Cadmium  | 70                             | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | 12                             | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            |
| Chromium   | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            | <80                            |
| Copper   | 56                             | 28                             | 21                             | 56                             | <20                            | <20                            | 35                             | 41                             | <20                            | 32                             | 42                             | <20                            | 50                             | <20                            | 50                             | 89                             | <20                            | <20                            |
| Iron   | 18000                          | 19000                          | 20000                          | 24000                          | 24000                          | 21000                          | 15000                          | 17000                          | 24000                          | 15000                          | 19000                          | 21000                          | 25000                          | 27000                          | 15000                          | 17000                          | 3000                           | 14000                          |
| Lead   | <10                            | 21                             | 17                             | <10                            | <10                            | 13                             | <10                            | <10                            | <10                            | <10                            | <10                            | 34                             | 28                             | 12                             | 14                             | <10                            | <10                            | <10                            |
| Selenium   | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            |
| Zinc   | 400                            | 34                             | 36                             | 37                             | 25                             | 40                             | 26                             | 13                             | 63                             | <10                            | 23                             | 36                             | 42                             | 33                             | 30                             | <10                            | 25                             | 28                             |
| <b>VOCs (mg/kg)</b>  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| 1,1,1-Trichloroethane                                      |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| 1,1,2-Trichloroethane                                      |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| 1,2-Dichlorobenzene  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| 4-Methyl-2-pentanone (MIBK)                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Acetone  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Carbon tetrachloride                                       |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Chlorobenzene  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Cyclohexane  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Dichlorodifluoromethane                                    |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Ethyl acetate  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Ethyl ether  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Ethylbenzene   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Methanol   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Methylene Chloride   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| n-Butyl alcohol  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Tetrachloroethene  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Total Xylenes  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Trichloroethene  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Trichlorofluoromethane                                     |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| <b>SVOCs (mg/kg)</b>                                       |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Hexachlorocyclopentadiene                                  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| <b>Pesticides (mg/kg)</b>                                  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Chlordane  |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Endrin   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Methyl parathion   |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |

Notes are included on Page 10.

**Table F-7**  
**Soil Analytical Data - South Terrace Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH8-1<br>65 - 67<br>10/30/1999 | BH8-1<br>70 - 72<br>10/30/1999 | BH8-10<br>10 - 11<br>4/11/2001 | BH8-10<br>15 - 16<br>4/11/2001 | BH8-11<br>0 - 1<br>4/12/2001 | BH8-11<br>1 - 2<br>4/12/2001 | BH8-11<br>10 - 11<br>4/12/2001 | BH8-11<br>2 - 3<br>4/12/2001 | BH8-11<br>3 - 4<br>4/12/2001 | BH8-11<br>4 - 5<br>4/12/2001 | BH8-12<br>0 - 1<br>4/16/2001 | BH8-12<br>1 - 2<br>4/16/2001 | BH8-12<br>2 - 3<br>4/16/2001 | BH8-12<br>3 - 4<br>4/16/2001 | BH8-12<br>9 - 10<br>4/16/2001 | BH8-2<br>10 - 12<br>11/1/1999 | BH8-2<br>15 - 17<br>11/1/1999 | BH8-2<br>20 - 22<br>11/1/1999 |
|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------|------------------------------|--------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Antimony   |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Arsenic  |                                |                                |                                |                                |                              | 108                          |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Barium   |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Cadmium  |                                |                                |                                |                                |                              | 545                          |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Chromium   |                                |                                |                                |                                |                              | 47                           |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Cobalt   |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Copper   |                                |                                |                                |                                |                              | 1067                         |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Iron   |                                |                                |                                |                                |                              | 18650                        |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Lead   |                                |                                |                                |                                |                              | 1039                         |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Mercury  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Molybdenum   |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Nickel   |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Selenium   |                                |                                |                                |                                |                              | <10                          |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Silver   |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Zinc   |                                |                                |                                |                                |                              | 2320                         |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Arsenic  | <10                            | <10                            | 41                             | 18                             | 15000                        | 130                          | <10                            | 230                          | 96                           | 75                           | 1600                         | 70                           | 110                          | <10                          | 25                            | 171                           | 64                            | 20                            |
| Cadmium  | <10                            | <10                            | 40                             | 13                             | 730                          | 570                          | <10                            | 750                          | 27                           | 23                           | 1500                         | 1900                         | 580                          | <10                          | 13                            | 68                            | 610                           | 18                            |
| Chromium   | <80                            | <80                            | <80                            | <80                            | 180                          | <80                          | <80                            | 89                           | 110                          | <80                          | 130                          | <80                          | <80                          | <80                          | 80                            | <80                           | <80                           | <80                           |
| Copper   | 46                             | 20                             | 91                             | <20                            | 45000                        | 1500                         | <20                            | 2200                         | 960                          | 750                          | 38000                        | 1900                         | 6500                         | 1300                         | 36                            | 400                           | 47                            | <20                           |
| Iron   | 12000                          | 14000                          | 6200                           | 4500                           | 93000                        | 15000                        | 4400                           | 4500                         | 30000                        | 44000                        | 13000                        | 52000                        | 9200                         | 44000                        | 12000                         | 5800                          | 16000                         | 27000                         |
| Lead   | <10                            | <10                            | 120                            | 23                             | 51000                        | 1100                         | <10                            | 1500                         | 1300                         | 430                          | 6300                         | 300                          | 760                          | 130                          | 48                            | 54                            | 30                            | 14                            |
| Selenium   | <10                            | <10                            | <20                            | <20                            | 200                          | <20                          | <20                            | <20                          | <20                          | <20                          | 25                           | <20                          | <20                          | <20                          | <20                           | <10                           | <10                           | <10                           |
| Zinc   | 18                             | 21                             | 1400                           | 85                             | 11000                        | 2700                         | 19                             | 2100                         | 3900                         | 400                          | 18000                        | 22000                        | 9300                         | 420                          | 150                           | 540                           | 920                           | 54                            |
| <b>VOCs (mg/kg)</b>  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| 1,1,1-Trichloroethane                                      |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| 1,1,2-Trichloroethane                                      |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| 1,2-Dichlorobenzene  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| 4-Methyl-2-pentanone (MIBK)                                |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Acetone  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Carbon tetrachloride                                       |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Chlorobenzene  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Cyclohexane  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Dichlorodifluoromethane                                    |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Ethyl acetate  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Ethyl ether  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Ethylbenzene   |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Methanol   |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Methylene Chloride   |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| n-Butyl alcohol  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Tetrachloroethene  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Total Xylenes  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Trichloroethene  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Trichlorofluoromethane                                     |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| <b>SVOCs (mg/kg)</b>                                       |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Hexachlorocyclopentadiene                                  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| <b>Pesticides (mg/kg)</b>                                  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Chlordane  |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Endrin   |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |
| Methyl parathion   |                                |                                |                                |                                |                              |                              |                                |                              |                              |                              |                              |                              |                              |                              |                               |                               |                               |                               |

Notes are included on Page 10.

**Table F-7**  
**Soil Analytical Data - South Terrace Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH8-2<br>25 - 27<br>11/1/1999 | BH8-2<br>30 - 32<br>11/1/1999 | BH8-2<br>35 - 37<br>11/1/1999 | BH8-2<br>40 - 42<br>11/1/1999 | BH8-2<br>45 - 47<br>11/1/1999 | BH8-2<br>50 - 52<br>11/1/1999 | BH8-2<br>55 - 57<br>11/1/1999 | BH8-2<br>60 - 62<br>11/1/1999 | BH8-2<br>65 - 67<br>11/1/1999 | BH8-3<br>14 - 16<br>11/1/1999 | BH8-3<br>20 - 22<br>11/1/1999 | BH8-3<br>25 - 27<br>11/1/1999 | BH8-3<br>30 - 32<br>11/1/1999 | BH8-3<br>35 - 37<br>11/1/1999 | BH8-3<br>40 - 42<br>11/2/1999 | BH8-3<br>45 - 47<br>11/2/1999 | BH8-3<br>50 - 52<br>11/2/1999 | BH8-3<br>55 - 57<br>11/2/1999 |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Antimony   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Arsenic  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Barium   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Cadmium  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Chromium   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Cobalt   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Copper   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Iron   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Lead   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Mercury  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Molybdenum   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Nickel   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Selenium   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Silver   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Zinc   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Arsenic  | 12                            | <10                           | 29                            | <10                           | <10                           | <10                           | 25                            | <10                           | 12                            | 63                            | <10                           | <10                           | 116                           | 87                            | 54                            | <10                           | <10                           | 21                            |
| Cadmium  | <10                           | <10                           | 10                            | <10                           | 10                            | <10                           | <10                           | <10                           | <10                           | 11                            | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           |
| Chromium   | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           | <80                           |
| Copper   | 36                            | 38                            | <20                           | 27                            | <20                           | 48                            | <20                           | <20                           | <20                           | 65                            | <20                           | 45                            | 79                            | 48                            | 43                            | 33                            | 72                            | <20                           |
| Iron   | 24000                         | 19000                         | 31000                         | 22000                         | 8600                          | 10000                         | 30000                         | 18000                         | 22000                         | 21000                         | 13000                         | 12000                         | 24000                         | 16000                         | 30000                         | 14000                         | 14000                         | 25000                         |
| Lead   | <10                           | <10                           | 11                            | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | 143                           | <10                           | 15                            | <10                           | <10                           | 29                            | <10                           | <10                           | <10                           |
| Selenium   | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           |
| Zinc   | 36                            | 69                            | 37                            | 47                            | 12                            | <10                           | 44                            | 45                            | 36                            | 38                            | <10                           | 17                            | 24                            | 19                            | 56                            | 17                            | 24                            | 51                            |
| <b>VOCs (mg/kg)</b>  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| 1,1,1-Trichloroethane                                      |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| 1,1,2-Trichloroethane                                      |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| 1,2-Dichlorobenzene  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Acetone  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Carbon tetrachloride                                       |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Chlorobenzene  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Cyclohexane  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Dichlorodifluoromethane                                    |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Ethyl acetate  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Ethyl ether  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Ethylbenzene   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Methanol   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Methylene Chloride   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| n-Butyl alcohol  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Tetrachloroethene  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Total Xylenes  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Trichloroethene  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Trichlorofluoromethane                                     |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| <b>SVOCs (mg/kg)</b>                                       |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Hexachlorocyclopentadiene                                  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| <b>Pesticides (mg/kg)</b>                                  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Chlordane  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Endrin   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| Methyl parathion   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |

Notes are included on Page 10.



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**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH8-5<br>0 - 1<br>4/11/2001 | BH8-5<br>1 - 2<br>4/11/2001 | BH8-5<br>15 - 16<br>4/11/2001 | BH8-5<br>2 - 3<br>4/11/2001 | BH8-5<br>20 - 21<br>4/11/2001 | BH8-6<br>1 - 2<br>4/11/2001 | BH8-6<br>15 - 16<br>4/11/2001 | BH8-6<br>2 - 3<br>4/11/2001 | BH8-6<br>20 - 21<br>4/11/2001 | BH8-6<br>3 - 4<br>4/11/2001 | BH8-6<br>4 - 5<br>4/11/2001 | BH8-7<br>0 - 1<br>4/11/2001 | BH8-7<br>1 - 2<br>4/11/2001 | BH8-7<br>15 - 16<br>4/11/2001 | BH8-7<br>2 - 3<br>4/11/2001 | BH8-7<br>20 - 21<br>4/11/2001 | BH8-7<br>3 - 4<br>4/11/2001 | BH8-7<br>4 - 5<br>4/11/2001 |
|--|-----------------------------|-----------------------------|-------------------------------|-----------------------------|-------------------------------|-----------------------------|-------------------------------|-----------------------------|-------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|-----------------------------|-------------------------------|-----------------------------|-----------------------------|
| <b>Metals (mg/kg)</b>                                      |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Antimony   |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Arsenic  |                             |                             |                               |                             |                               | 18                          |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Barium   |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Cadmium  |                             |                             |                               |                             |                               | <10                         |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Chromium   |                             |                             |                               |                             |                               | 32                          |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Cobalt   |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Copper   |                             |                             |                               |                             |                               | 245                         |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Iron   |                             |                             |                               |                             |                               | 10340                       |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Lead   |                             |                             |                               |                             |                               | 248                         |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Mercury  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Molybdenum   |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Nickel   |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Selenium   |                             |                             |                               |                             |                               | <10                         |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Silver   |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Zinc   |                             |                             |                               |                             |                               | 231                         |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Arsenic  | 6100                        | 2100                        | 48                            | 3300                        | 22                            | 32                          | <10                           | 3500                        | 19                            | 1600                        | 190                         | 4900                        | 380                         | 19                            | 37                          | 28                            | 87                          | 290                         |
| Cadmium  | 2200                        | 910                         | 51                            | 880                         | 17                            | <10                         | <10                           | 280                         | 12                            | 300                         | 18                          | 520                         | 36                          | 14                            | 16                          | <10                           | 25                          | 72                          |
| Chromium   | 120                         | 110                         | 42                            | 190                         | <80                           | <80                         | <80                           | 200                         | <80                           | 120                         | 270                         | 220                         | 420                         | <80                           | <80                         | 80                            | <80                         | <80                         |
| Copper   | 17000                       | 8200                        | 170                           | 14000                       | 52                            | 330                         | 60                            | 18000                       | 23                            | 21000                       | 10000                       | 46000                       | 12000                       | 700                           | 950                         | <20                           | 2700                        | 5900                        |
| Iron   | 57000                       | 41000                       | 7600                          | 100000                      | 6500                          | 7000                        | 7500                          | 95000                       | 11000                         | 58000                       | 130000                      | 98000                       | 180000                      | 7600                          | 13000                       | 22000                         | 15000                       | 22000                       |
| Lead   | 24000                       | 13000                       | 150                           | 22000                       | 49                            | 330                         | 33                            | 43000                       | 23                            | 22000                       | 830                         | 24000                       | 860                         | 35                            | 160                         | 51                            | 350                         | 3200                        |
| Selenium   | 140                         | 74                          | <20                           | 110                         | <20                           | <20                         | <20                           | 130                         | <20                           | 97                          | <20                         | 110                         | 24                          | <20                           | <20                         | <20                           | <20                         | <20                         |
| Zinc   | 12000                       | 7200                        | 180                           | 8300                        | 170                           | 83                          | 19                            | 9000                        | 24                            | 6500                        | 1700                        | 10000                       | 8300                        | 85                            | 200                         | <10                           | 550                         | 1900                        |
| <b>VOCs (mg/kg)</b>  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| 1,1,1-Trichloroethane                                      |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| 1,1,2-Trichloroethane                                      |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| 1,2-Dichlorobenzene  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| 4-Methyl-2-pentanone (MIBK)                                |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Acetone  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Carbon tetrachloride                                       |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Chlorobenzene  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Cyclohexane  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Dichlorodifluoromethane                                    |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Ethyl acetate  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Ethyl ether  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Ethylbenzene   |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Methanol   |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Methylene Chloride   |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| n-Butyl alcohol  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Tetrachloroethene  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Total Xylenes  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Trichloroethene  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Trichlorofluoromethane                                     |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| <b>SVOCs (mg/kg)</b>                                       |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Hexachlorocyclopentadiene                                  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| <b>Pesticides (mg/kg)</b>                                  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Chlordane  |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Endrin   |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |
| Methyl parathion   |                             |                             |                               |                             |                               |                             |                               |                             |                               |                             |                             |                             |                             |                               |                             |                               |                             |                             |

Notes are included on Page 10.

**Table F-7**  
**Soil Analytical Data - South Terrace Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BH8-8<br>0 - 1<br>4/11/2001 | BH8-8<br>1 - 2<br>4/11/2001 | BH8-8<br>12 - 13<br>4/11/2001 | BH8-8<br>18 - 19<br>4/11/2001 | BH8-9<br>0 - 0.5<br>4/11/2001 | BH8-9<br>12 - 13<br>4/11/2001 | BH8-9<br>7 - 8<br>4/11/2001 | EP-107<br>0 - 1<br>10/11/1999 | EP-107<br>1 - 2<br>10/11/1999 | EP-107<br>15 - 17<br>10/11/1999 | EP-107<br>2 - 3<br>10/11/1999 | EP-107<br>20 - 22<br>10/11/1999 | EP-107<br>25 - 27<br>10/11/1999 | EP-107<br>3 - 4<br>10/11/1999 | EP-107<br>30 - 32<br>10/11/1999 | EP-107<br>35 - 37<br>10/11/1999 | EP-107<br>4 - 5<br>10/11/1999 | EP-107<br>40 - 42<br>10/11/1999 |
|--|-----------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|
| <b>Metals (mg/kg)</b>                                      |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Antimony   |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Arsenic  |                             |                             |                               |                               |                               |                               | 118                         |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Barium   |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Cadmium  |                             |                             |                               |                               |                               |                               | 131                         |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Chromium   |                             |                             |                               |                               |                               |                               | 47                          |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Cobalt   |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Copper   |                             |                             |                               |                               |                               |                               | 1259                        |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Iron   |                             |                             |                               |                               |                               |                               | 17850                       |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Lead   |                             |                             |                               |                               |                               |                               | 184                         |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Mercury  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Molybdenum   |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Nickel   |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Selenium   |                             |                             |                               |                               |                               |                               | <10                         |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Silver   |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Zinc   |                             |                             |                               |                               |                               |                               | 385                         |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Arsenic  | 340                         | 860                         | <10                           | <10                           | 4700                          | 13                            | 130                         | 69                            | 22                            | 77                              | <10                           | <10                             | <10                             | <10                           | <10                             | 11                              | 31                            | 14                              |
| Cadmium  | 93                          | 160                         | <10                           | <10                           | 350                           | <10                           | 96                          | 15                            | <10                           | 13                              | <10                           | <10                             | <10                             | 12                            | <10                             | <10                             | 29                            | <10                             |
| Chromium   | <80                         | 120                         | <80                           | <80                           | 300                           | <80                           | <80                         | 100                           | 92                            | <80                             | <80                           | <80                             | <80                             | <80                           | <80                             | <80                             | <80                           | <80                             |
| Copper   | 6100                        | 9800                        | 48                            | <20                           | 85000                         | <20                           | 1700                        | 330                           | 30                            | 39                              | 28                            | 25                              | 81                              | 41                            | <20                             | <20                             | 710                           | <20                             |
| Iron   | 22000                       | 48000                       | 6500                          | 6300                          | 140000                        | 8400                          | 12000                       | 6300                          | 15000                         | 13000                           | 19000                         | 14000                           | 13000                           | 12000                         | 17000                           | 11000                           | 21000                         | 18000                           |
| Lead   | 2700                        | 9200                        | 74                            | 28                            | 38000                         | 25                            | 210                         | 150                           | 43                            | 67                              | 51                            | 54                              | 71                              | 80                            | 68                              | 49                              | 500                           | 32                              |
| Selenium   | 21                          | 37                          | <20                           | <20                           | 240                           | <20                           | <20                         | <10                           | <10                           | <10                             | <10                           | <10                             | 10                              | <10                           | <10                             | <10                             | <10                           | <10                             |
| Zinc   | 1900                        | 5500                        | 170                           | 23                            | 12000                         | 14                            | 440                         | 140                           | 52                            | 55                              | 13                            | 18                              | 28                              | 34                            | 18                              | 42                              | 310                           | 30                              |
| <b>VOCs (mg/kg)</b>  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| 1,1,1-Trichloroethane                                      |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| 1,1,2-Trichloroethane                                      |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| 1,2-Dichlorobenzene  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| 4-Methyl-2-pentanone (MIBK)                                |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Acetone  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Carbon tetrachloride                                       |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Chlorobenzene  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Cyclohexane  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Dichlorodifluoromethane                                    |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Ethyl acetate  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Ethyl ether  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Ethylbenzene   |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Methanol   |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Methylene Chloride   |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| n-Butyl alcohol  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Tetrachloroethene  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Total Xylenes  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Trichloroethene  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Trichlorofluoromethane                                     |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| <b>SVOCs (mg/kg)</b>                                       |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Hexachlorocyclopentadiene                                  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| <b>Pesticides (mg/kg)</b>                                  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Chlordane  |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Endrin   |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |
| Methyl parathion   |                             |                             |                               |                               |                               |                               |                             |                               |                               |                                 |                               |                                 |                                 |                               |                                 |                                 |                               |                                 |

Notes are included on Page 10.

**Table F-7**  
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**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-107<br>45 - 47<br>10/11/1999 | EP-107<br>50 - 52<br>10/11/1999 | EP-107<br>55 - 57<br>10/12/1999 | EP-107<br>60 - 62<br>10/12/1999 | EP-107<br>65 - 67<br>10/12/1999 | EP-67<br>0 - 0.5<br>5/28/1997 | EP-67<br>10 - 10<br>5/28/1997 | EP-67<br>15 - 15<br>5/28/1997 | EP-67<br>20 - 20<br>5/28/1997 | EP-67<br>25 - 25<br>5/28/1997 | EP-67<br>30 - 30<br>5/28/1997 | EP-67<br>35 - 35<br>5/28/1997 | EP-67<br>40 - 40<br>5/28/1997 | EP-67<br>45 - 45<br>5/28/1997 | EP-67<br>5 - 5<br>5/28/1997 | EP-67<br>50 - 50<br>5/28/1997 | EP-70<br>20 - 20<br>5/30/1997 | EP-70<br>25 - 25<br>5/30/1997 |
|--|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Antimony   |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Arsenic  |                                 |                                 |                                 |                                 |                                 | 1400                          | 340                           | 240                           | 310                           | 350                           | 170                           | 140                           | 38                            | <20                           | 320                         | <20                           | 230                           | 130                           |
| Barium   |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Cadmium  |                                 |                                 |                                 |                                 |                                 | 470                           | 59                            | 82                            | <10                           | <10                           | <10                           | 13                            | <10                           | <10                           | 200                         | <10                           | 79                            | 210                           |
| Chromium   |                                 |                                 |                                 |                                 |                                 | <30                           | 46                            | 100                           | <30                           | <30                           | 64                            | 30                            | 120                           | <30                           | 77                          | <30                           | 45                            | <30                           |
| Cobalt   |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Copper   |                                 |                                 |                                 |                                 |                                 | 25000                         | 210                           | 250                           | 130                           | 210                           | 110                           | 91                            | 41                            | 23                            | 2000                        | 24                            | 32                            | 24                            |
| Iron   |                                 |                                 |                                 |                                 |                                 | 30000                         | 25000                         | 22000                         | 24000                         | 19000                         | 18000                         | 16000                         | 26000                         | 25000                         | 26000                       | 23000                         | 12000                         | 17000                         |
| Lead   |                                 |                                 |                                 |                                 |                                 | 9400                          | 25                            | 18                            | 27                            | <10                           | 16                            | 21                            | <10                           | 20                            | 550                         | 11                            | 28                            | 20                            |
| Mercury  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Molybdenum   |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Nickel   |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Selenium   |                                 |                                 |                                 |                                 |                                 | 18                            | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                         | <10                           | <10                           | <10                           |
| Silver   |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Zinc   |                                 |                                 |                                 |                                 |                                 | 4800                          | 56                            | 82                            | 44                            | 41                            | 29                            | 39                            | 58                            | 33                            | 680                         | 56                            | 890                           | 1400                          |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Arsenic  | <10                             | <10                             | <10                             | <10                             | <10                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Cadmium  | 11                              | <10                             | <10                             | <10                             | 11                              |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Chromium   | <80                             | <80                             | <80                             | <80                             | <80                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Copper   | <20                             | 23                              | 33                              | 28                              | 45                              |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Iron   | 24000                           | 18000                           | 14000                           | 18000                           | 19000                           |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Lead   | 44                              | 41                              | 44                              | 26                              | 40                              |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Selenium   | <10                             | <10                             | <10                             | <10                             | <10                             |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Zinc   | 43                              | 40                              | 11                              | 31                              | 24                              |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| <b>VOCs (mg/kg)</b>  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| 1,1,1-Trichloroethane                                      |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| 1,1,2-Trichloroethane                                      |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| 1,2-Dichlorobenzene  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| 4-Methyl-2-pentanone (MIBK)                                |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Acetone  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Carbon tetrachloride                                       |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Chlorobenzene  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Cyclohexane  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Dichlorodifluoromethane                                    |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Ethyl acetate  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Ethyl ether  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Ethylbenzene   |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Methanol   |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Methylene Chloride   |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| n-Butyl alcohol  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Tetrachloroethene  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Total Xylenes  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Trichloroethene  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Trichlorofluoromethane                                     |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| <b>SVOCs (mg/kg)</b>                                       |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Hexachlorocyclopentadiene                                  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| <b>Pesticides (mg/kg)</b>                                  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Chlordane  |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Endrin   |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |
| Methyl parathion   |                                 |                                 |                                 |                                 |                                 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |

Notes are included on Page 10.

**Table F-7**  
**Soil Analytical Data - South Terrace Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-70<br>30 - 30<br>5/30/1997 | EP-70<br>35 - 35<br>5/30/1997 | EP-70<br>40 - 40<br>5/31/1997 | EP-70<br>45 - 45<br>5/31/1997 | EP-70R<br>15 - 15<br>6/12/1997 | EP-70R<br>20 - 20<br>6/12/1997 | EP-70R<br>25 - 25<br>6/12/1997 | EP-70R<br>30 - 30<br>6/12/1997 | EP-70R<br>35 - 35<br>6/12/1997 | EP-70R<br>40 - 40<br>6/12/1997 | EP-70R<br>45 - 45<br>6/12/1997 | EP-70R<br>50 - 50<br>6/12/1997 | EP-70R<br>55 - 55<br>6/12/1997 | EP-70R<br>60 - 60<br>6/12/1997 | EP-70R<br>65 - 65<br>6/12/1997 | EP-70R<br>70 - 70<br>6/12/1997 | EP-70R<br>9 - 9<br>6/12/1997 | EP-72<br>15 - 15<br>5/31/1997 |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Antimony   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Arsenic  | 130                           | 320                           | 390                           | 120                           | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            | 36                           | <20                           |
| Barium   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Cadmium  | 20                            | 190                           | 51                            | 70                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | 27                           | 220                           |
| Chromium   | 64                            | 48                            | 130                           | 87                            | <30                            | <30                            | 42                             | <30                            | 67                             | 52                             | 77                             | 110                            | <30                            | 150                            | <30                            | <30                            | 110                          | 70                            |
| Cobalt   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Copper   | 43                            | 66                            | 27                            | <20                           | <20                            | 21                             | <20                            | 22                             | 13                             | 14                             | 68                             | <20                            | <20                            | <20                            | <20                            | <20                            | 230                          | 340                           |
| Iron   | 11000                         | 22000                         | 25000                         | 19000                         | 10000                          | 16000                          | 12000                          | 9000                           | 23000                          | 21000                          | 29000                          | 16000                          | 17000                          | 17000                          | 17000                          | 17000                          | 20000                        | 33000                         |
| Lead   | 24                            | 20                            | 18                            | 18                            | 16                             | 25                             | 18                             | 16                             | 27                             | 20                             | 45                             | 12                             | <10                            | 16                             | <10                            | <10                            | 41                           | 530                           |
| Mercury  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Molybdenum   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Nickel   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Selenium   | <10                           | <10                           | <10                           | <10                           | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                          | <10                           |
| Silver   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Zinc   | 300                           | 770                           | 1000                          | 690                           | 17                             | 29                             | <10                            | <10                            | 56                             | 53                             | 110                            | 53                             | 65                             | 26                             | 55                             | 33                             | 470                          | 1500                          |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Arsenic  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Cadmium  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Chromium   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Copper   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Iron   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Lead   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Selenium   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Zinc   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| <b>VOCs (mg/kg)</b>  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| 1,1,1-Trichloroethane                                      |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| 1,1,2-Trichloroethane                                      |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| 1,2-Dichlorobenzene  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Acetone  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Carbon tetrachloride                                       |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Chlorobenzene  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Cyclohexane  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Dichlorodifluoromethane                                    |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Ethyl acetate  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Ethyl ether  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Ethylbenzene   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Methanol   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Methylene Chloride   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| n-Butyl alcohol  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Tetrachloroethene  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Total Xylenes  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Trichloroethene  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Trichlorofluoromethane                                     |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| <b>SVOCs (mg/kg)</b>                                       |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Hexachlorocyclopentadiene                                  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| <b>Pesticides (mg/kg)</b>                                  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Chlordane  |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Endrin   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |
| Methyl parathion   |                               |                               |                               |                               |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                              |                               |

Notes are included on Page 10.

**Table F-7**  
**Soil Analytical Data - South Terrace Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-72<br>20 - 20<br>5/31/1997 | EP-72<br>25 - 25<br>6/1/1997 7:25:00 | EP-72<br>30 - 30<br>6/1/1997 7:50:00 | EP-72<br>35 - 35<br>6/1/1997 8:10:00 | EP-72<br>40 - 40<br>6/1/1997 8:35:00 | SSIA8-24<br>0 - 1<br>7/18/1997 | SSIA8-24<br>1.5 - 1.5<br>7/18/1997 | SSIA8-25<br>0 - 1<br>7/18/1997 | SSIA8-25<br>1.5 - 1.5<br>7/18/1997 | SSIA8-26<br>0 - 1<br>7/18/1997 | SSIA8-26<br>1.5 - 1.5<br>7/18/1997 | SSIA8-27<br>0 - 1<br>7/18/1997 | SSIA8-27<br>1.5 - 1.5<br>7/18/1997 | SSIA8-27<br>3 - 3<br>7/18/1997 | SSIA8-28<br>0 - 1<br>7/18/1997 | SSIA8-28<br>1.5 - 1.5<br>7/18/1997 | SSIA8-28<br>3 - 3<br>7/18/1997 | SSIA8-28<br>4 - 4<br>7/18/1997 |
|--|-------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------|------------------------------------|--------------------------------|------------------------------------|--------------------------------|------------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Antimony   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Arsenic  | <20                           | <20                                  | 67                                   | 54                                   | <20                                  | 110                            | 44                                 | 4400                           | 900                                | 2900                           | 290                                | 3300                           | 240                                |                                | 4400                           | 3300                               |                                |                                |
| Barium   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Cadmium  | <10                           | <10                                  | 25                                   | <10                                  | <10                                  | 21                             | 190                                | 910                            | 120                                | 520                            | 410                                | 380                            | 33                                 |                                | 1800                           | 1300                               |                                |                                |
| Chromium   | 33                            | 67                                   | <30                                  | 75                                   | <30                                  | 100                            | 88                                 | 170                            | 99                                 | 85                             | 120                                | 290                            | 31                                 |                                | 210                            | 100                                |                                |                                |
| Cobalt   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Copper   | 20                            | <20                                  | 63                                   | <20                                  | <20                                  | 2900                           | 2000                               | 65000                          | 9800                               | 110000                         | 9500                               | 96000                          | 8800                               |                                | 22000                          | 12000                              |                                |                                |
| Iron   | 17000                         | 13000                                | 19000                                | 22000                                | 23000                                | 18000                          | 30000                              | 59000                          | 140000                             | 110000                         | 160000                             | 70000                          | 20000                              |                                | 33000                          | 49000                              |                                |                                |
| Lead   | 32                            | 22                                   | 23                                   | 38                                   | 29                                   | 550                            | 850                                | 20000                          | 3600                               | 25000                          | 8100                               | 8100                           | 790                                |                                | 7300                           | 19000                              |                                |                                |
| Mercury  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Molybdenum   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Nickel   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Selenium   | <10                           | <10                                  | <10                                  | <10                                  | <10                                  | <10                            | 19                                 | 180                            | 31                                 | 94                             | 10                                 | 98                             | <10                                |                                | 39                             | 53                                 |                                |                                |
| Silver   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Zinc   | 81                            | 19                                   | 74                                   | 32                                   | 49                                   | 1000                           | 2100                               | 16000                          | 19000                              | 12000                          | 33000                              | 11000                          | 1200                               |                                | 6100                           | 19000                              |                                |                                |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Arsenic  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    | <20                            |                                |                                    | <20                            | <20                            |
| Cadmium  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    | <10                            |                                |                                    | <10                            | <10                            |
| Chromium   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    | 130                            |                                |                                    | 170                            | 89                             |
| Copper   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    | 540                            |                                |                                    | 38                             | 31                             |
| Iron   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    | 13000                          |                                |                                    | 18000                          | 13000                          |
| Lead   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    | 170                            |                                |                                    | 60                             | 27                             |
| Selenium   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    | <10                            |                                |                                    | <10                            | <10                            |
| Zinc   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    | 95                             |                                |                                    | 55                             | 20                             |
| <b>VOCs (mg/kg)</b>  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| 1,1,1-Trichloroethane                                      |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| 1,1,2-Trichloroethane                                      |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| 1,2-Dichlorobenzene  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Acetone  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Carbon tetrachloride                                       |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Chlorobenzene  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Cyclohexane  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Dichlorodifluoromethane                                    |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Ethyl acetate  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Ethyl ether  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Ethylbenzene   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Methanol   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Methylene Chloride   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| n-Butyl alcohol  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Tetrachloroethene  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Total Xylenes  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Trichloroethene  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Trichlorofluoromethane                                     |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| <b>SVOCs (mg/kg)</b>                                       |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Hexachlorocyclopentadiene                                  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| <b>Pesticides (mg/kg)</b>                                  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Chlordane  |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Endrin   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |
| Methyl parathion   |                               |                                      |                                      |                                      |                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                    |                                |                                |

Notes are included on Page 10.

**Table F-7**  
**Soil Analytical Data - South Terrace Arroyo**  
**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SSIA8-29<br>0 - 1<br>7/18/1997 | SSIA8-29<br>1.5 - 1.5<br>7/18/1997 | SSIA8-30<br>0 - 1<br>7/18/1997 | SSIA8-30<br>1.5 - 1.5<br>7/18/1997 | SSIA8-31<br>0 - 1<br>7/18/1997 | SSIA8-31<br>1.5 - 1.5<br>7/18/1997 | SSIA8-31<br>3 - 3<br>7/18/1997 | UB-SB01<br>0 - 0.5<br>8/8/2011 | UB-SB01<br>1 - 1.5<br>8/8/2011 | UB-SB01<br>3 - 3.5<br>8/8/2011 | UB-SB01<br>4.5 - 5<br>8/8/2011 | UB-SB02<br>0 - 0.5<br>8/8/2011 | UB-SB02<br>1 - 1.5<br>8/8/2011 | UB-SB02<br>3 - 3.5<br>8/8/2011 | UB-SB02<br>4.5 - 5<br>8/8/2011 |
|--|--------------------------------|------------------------------------|--------------------------------|------------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Antimony   |                                |                                    |                                |                                    |                                |                                    |                                | 151                            | 3.83                           | <0.275                         | <0.282                         | 267                            | 4.32                           | <0.249                         | <0.284                         |
| Arsenic  | 2900                           | 1100                               | 2000                           | 220                                | 48                             | 94                                 |                                | 1570                           | 82.6                           | 2.58                           | 3.14                           | 3450                           | 60.5                           | 9.48                           | 5.48                           |
| Barium   |                                |                                    |                                |                                    |                                |                                    |                                | 33.5 J                         | 108 J                          | 120 J                          | 45.4 J                         | 66.9 J                         | 62.4 J                         | 95.6 J                         | 89.4 J                         |
| Cadmium  | 470                            | 350                                | 840                            | 36                                 | <10                            | 280                                |                                | 206                            | 788                            | 35.6                           | 30.5                           | 467                            | 4.68                           | 0.521                          | 0.402 J                        |
| Chromium   | 520                            | 230                                | 70                             | 250                                | <30                            | 80                                 |                                | 10.2                           | 5.23                           | 2.94                           | 2.57                           | 17                             | 2.14                           | 3.49                           | 2.42                           |
| Cobalt   |                                |                                    |                                |                                    |                                |                                    |                                | 25.7                           | 3.82                           | 2.16                           | 2.45                           | 36.4                           | 3.09                           | 2.89                           | 1.93                           |
| Copper   | 65000                          | 31000                              | 190000                         | 21000                              | 400                            | 6500                               |                                | 7300                           | 711                            | 8.52 J                         | 8.28 J                         | 35600                          | 372 J                          | 44.6 J                         | 60.7 J                         |
| Iron   | 130000                         | 120000                             | 78000                          | 210000                             | 14000                          | 26000                              |                                | 4740 J                         | 8150 J                         | 4660 J                         | 5570 J                         | 78900 J                        | 5290 J                         | 6300 J                         | 4550 J                         |
| Lead   | 9700                           | 22000                              | 20000                          | 8100                               | 400                            | 9900                               |                                | 2080                           | 420 J                          | 5.53 J                         | 5.44 J                         | 18100 J                        | 238 J                          | 13.6 J                         | 10.5 J                         |
| Mercury  |                                |                                    |                                |                                    |                                |                                    |                                | 7.06                           | 0.385                          | <0.00941                       | <0.0118                        | 10.8                           | 0.205                          | <0.0139                        | 0.00915 J                      |
| Molybdenum   |                                |                                    |                                |                                    |                                |                                    |                                | 17.3                           | 4.4                            | 0.471 J                        | 0.35 J                         | 201                            | 1.75 J                         | 0.651 J                        | 0.447 J                        |
| Nickel   |                                |                                    |                                |                                    |                                |                                    |                                | 20.5                           | 9.27                           | 3.27                           | 3.33                           | 52                             | 4.1                            | 5.51                           | 3.09                           |
| Selenium   | 160                            | 60                                 | 73                             | <10                                | <10                            | 40                                 |                                | 10.5                           | 2.21                           | <0.204                         | <0.209                         | 46.1                           | 0.355 J                        | <0.185                         | <0.211                         |
| Silver   |                                |                                    |                                |                                    |                                |                                    |                                | 22                             | 3.82                           | <0.113                         | <0.116                         | 108                            | 2.57                           | <0.103                         | <0.117                         |
| Zinc   | 16000                          | 24000                              | 9400                           | 10000                              | 400                            | 7300                               |                                | 1630                           | 291                            | 13.3                           | 13.2                           | 5680                           | 84.6                           | 17                             | 13.3                           |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Arsenic  |                                |                                    |                                |                                    |                                |                                    |                                | <20                            |                                |                                |                                |                                |                                |                                |                                |
| Cadmium  |                                |                                    |                                |                                    |                                |                                    |                                | 44                             |                                |                                |                                |                                |                                |                                |                                |
| Chromium   |                                |                                    |                                |                                    |                                |                                    |                                | 340                            |                                |                                |                                |                                |                                |                                |                                |
| Copper   |                                |                                    |                                |                                    |                                |                                    |                                | 4400                           |                                |                                |                                |                                |                                |                                |                                |
| Iron   |                                |                                    |                                |                                    |                                |                                    |                                | 260000                         |                                |                                |                                |                                |                                |                                |                                |
| Lead   |                                |                                    |                                |                                    |                                |                                    |                                | 7100                           |                                |                                |                                |                                |                                |                                |                                |
| Selenium   |                                |                                    |                                |                                    |                                |                                    |                                | 42                             |                                |                                |                                |                                |                                |                                |                                |
| Zinc   |                                |                                    |                                |                                    |                                |                                    |                                | 12000                          |                                |                                |                                |                                |                                |                                |                                |
| <b>VOCs (mg/kg)</b>  |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| 1,1,1-Trichloroethane                                      |                                |                                    |                                |                                    |                                |                                    |                                | <0.000619                      | <0.000631                      | <0.000666                      | <0.00071                       | <0.000732 UJ                   | <0.000617                      | <0.000688                      | <0.000733                      |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                                |                                    |                                |                                    |                                |                                    |                                | <0.000592                      | <0.000604                      | <0.000637                      | <0.000679                      | <0.0007 UJ                     | <0.000591                      | <0.000659                      | <0.000702                      |
| 1,1,2-Trichloroethane                                      |                                |                                    |                                |                                    |                                |                                    |                                | <0.000442                      | <0.000451                      | <0.000475                      | <0.000507                      | <0.000523 UJ                   | <0.000441                      | <0.000492                      | <0.000524                      |
| 1,2-Dichlorobenzene  |                                |                                    |                                |                                    |                                |                                    |                                | <0.000221                      | <0.000225                      | <0.000238                      | <0.000253                      | <0.000261 UJ                   | <0.00022                       | <0.000246                      | <0.000262                      |
| 4-Methyl-2-pentanone (MIBK)                                |                                |                                    |                                |                                    |                                |                                    |                                | <0.000822                      | <0.000838                      | <0.000884                      | <0.000943                      | <0.000972 UJ                   | <0.00082                       | <0.000914                      | <0.000974                      |
| Acetone  |                                |                                    |                                |                                    |                                |                                    |                                | <0.00636                       | <0.00649                       | <0.00685                       | <0.0073                        | <0.00753 UJ                    | <0.00635                       | <0.00708                       | <0.00754                       |
| Carbon tetrachloride                                       |                                |                                    |                                |                                    |                                |                                    |                                | <0.000451                      | <0.00046                       | <0.000485                      | <0.000517                      | <0.000533 UJ                   | <0.00045                       | <0.000501                      | <0.000534                      |
| Chlorobenzene  |                                |                                    |                                |                                    |                                |                                    |                                | <0.000203                      | <0.000207                      | <0.000219                      | <0.000233                      | <0.00024 UJ                    | <0.000203                      | <0.000226                      | <0.000241                      |
| Cyclohexane  |                                |                                    |                                |                                    |                                |                                    |                                | <0.000875                      | <0.000892                      | <0.000941                      | <0.001                         | <0.00103 UJ                    | <0.000873                      | <0.000973                      | <0.00104                       |
| Dichlorodifluoromethane                                    |                                |                                    |                                |                                    |                                |                                    |                                | <0.000645                      | <0.000658                      | <0.000694                      | <0.00074                       | <0.000763 UJ                   | <0.000644                      | <0.000718                      | <0.000765                      |
| Ethyl acetate  |                                |                                    |                                |                                    |                                |                                    |                                | <0.00106                       | <0.00108                       | <0.00114                       | <0.00122                       | <0.00125 UJ                    | <0.00106                       | <0.00118                       | <0.00126                       |
| Ethyl ether  |                                |                                    |                                |                                    |                                |                                    |                                | <0.00015                       | <0.000153                      | <0.000162                      | <0.000172                      | <0.000178 UJ                   | <0.00015                       | <0.000167                      | <0.000178                      |
| Ethylbenzene   |                                |                                    |                                |                                    |                                |                                    |                                | <0.000194                      | <0.000198                      | <0.000209                      | <0.000223                      | <0.00023 UJ                    | <0.000194                      | <0.000216                      | <0.00023                       |
| Methanol   |                                |                                    |                                |                                    |                                |                                    |                                | <1.04                          | <1.14                          | <1.06                          | <1.05                          | <1.1                           | <1.06                          | <1.06                          | <1.06                          |
| Methylene Chloride   |                                |                                    |                                |                                    |                                |                                    |                                | <0.00442                       | <0.00451                       | <0.00475                       | <0.00507                       | <0.00523 UJ                    | <0.00441                       | <0.00492                       | <0.00524                       |
| n-Butyl alcohol  |                                |                                    |                                |                                    |                                |                                    |                                | <0.382                         | <0.418                         | <0.387                         | <0.387                         | <0.404                         | <0.387                         | <0.389                         | <0.388                         |
| Tetrachloroethene  |                                |                                    |                                |                                    |                                |                                    |                                | <0.000654                      | <0.000667                      | <0.000704                      | <0.00075                       | <0.000773 UJ                   | <0.000653                      | <0.000728                      | <0.000775                      |
| Total Xylenes  |                                |                                    |                                |                                    |                                |                                    |                                | <0.000318                      | <0.000324                      | <0.000342                      | <0.000365                      | <0.000376 UJ                   | <0.000317                      | <0.000354                      | <0.000377                      |
| Trichloroethene  |                                |                                    |                                |                                    |                                |                                    |                                | <0.000247                      | <0.000252                      | <0.000266                      | <0.000284                      | <0.000293 UJ                   | <0.000247                      | <0.000275                      | <0.000293                      |
| Trichlorofluoromethane                                     |                                |                                    |                                |                                    |                                |                                    |                                | <0.000442                      | <0.000451                      | <0.000475                      | <0.000507                      | <0.000523 UJ                   | <0.000441                      | <0.000492                      | <0.000524                      |
| <b>SVOCs (mg/kg)</b>                                       |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Hexachlorocyclopentadiene                                  |                                |                                    |                                |                                    |                                |                                    |                                | <0.0986 UJ                     | <0.109                         | <0.103                         | <0.101                         | <0.104                         | <0.102                         | <0.102                         | <0.104                         |
| <b>Pesticides (mg/kg)</b>                                  |                                |                                    |                                |                                    |                                |                                    |                                |                                |                                |                                |                                |                                |                                |                                |                                |
| Chlordane  |                                |                                    |                                |                                    |                                |                                    |                                | <0.00189 UJ                    | <0.00207                       | <0.00192                       | 0.00848 J                      | <0.01                          | <0.00192                       | <0.00192                       | <0.00192                       |
| Endrin   |                                |                                    |                                |                                    |                                |                                    |                                | <0.0000838 UJ                  | <0.0000916                     | <0.000085                      | <0.0000847                     | <0.000443                      | <0.0000851                     | <0.000085                      | <0.000085                      |
| Methyl parathion   |                                |                                    |                                |                                    |                                |                                    |                                | <0.0085                        | <0.00928                       | <0.00846                       | <0.00863                       | <0.00896                       | <0.00865                       | <0.00862                       | <0.0086                        |

**Notes:**  
<sup>1</sup> Samples analysed using field x-ray diffraction methods  
ft bgs = sample interval in feet below ground surface  
mg/kg = milligram per kilogram  
SU = Standard (pH) Units  
SVOC = Semivolatile Organic Compound  
VOC = Volatile Organic Compound

**Laboratory Qualifiers:**  
J = Estimated value reported. In the majority of cases this represents a value less than the contract required quantitation limit, but greater than the method detection limit.  
U = Compound was analyzed for but not detected. The value shown in the laboratory method detection limit.

**Table F-8**  
**Soil Analytical Data - Plant Entrance Arroyo**  
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| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | Area 14-3<br>0 - 1<br>10/25/2007 | Area 14-3<br>1 - 2<br>10/25/2007 | Area 14-3<br>2 - 3<br>10/25/2007 | Area 14-3<br>3 - 4<br>10/25/2007 | Area 14-3<br>4 - 5<br>10/25/2007 | Area 14-3<br>5 - 6<br>10/25/2007 | Area 14-4<br>0 - 1<br>10/25/2007 | Area 14-4<br>1 - 2<br>10/25/2007 | Area 14-4<br>2 - 3<br>10/25/2007 | Area 14-4<br>3 - 4<br>10/25/2007 | Area 14-4<br>4 - 5<br>10/25/2007 | Area 14-4<br>5 - 6<br>10/25/2007 | Area 14-4<br>6 - 7<br>10/25/2007 | Area 14-4<br>7 - 8<br>10/25/2007 | EP-110<br>0 - 1<br>10/18/1999 | EP-110<br>1 - 2<br>10/18/1999 |
|--|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                               |
| Arsenic  | 56.5                             | <2                               | 13.4                             | <2                               | <2                               | <2                               | 590                              | 12.5                             | 104                              | 8.08                             | 14.4                             | 10.3                             | <2                               | <2                               |                               |                               |
| Cadmium  | 84.3                             | 0.336                            | 28.3                             | <0.2                             | 0.251                            | 0.213                            | 73.3                             | 48.8                             | 24.2                             | 5.17                             | 17.8                             | 19.8                             | 0.907                            | 0.231                            |                               |                               |
| Chromium   | 5.08                             | 2.75                             | 3.63                             | 3.21                             | 5.43                             | 3.29                             | 13.4                             | 4.61                             | 5.44                             | 3.86                             | 4.53                             | 3.49                             | 6.75                             | 4.08                             |                               |                               |
| Copper   | 582                              | 5.48                             | 141                              | 2.71                             | 3.99                             | 3.67                             | 10100                            | 204                              | 1530                             | 33.3                             | 35.2                             | 42                               | 6                                | 3.6                              |                               |                               |
| Iron   | 7280                             | 4760                             | 5730                             | 4340                             | 5680                             | 5170                             | 21000                            | 7990                             | 9470                             | 6290                             | 5650                             | 6750                             | 5920                             | 5170                             |                               |                               |
| Lead   | 152                              | 4.01                             | 47.3                             | <1                               | 5.27                             | <1                               | 2240                             | 29.7                             | 360                              | 7.34                             | 4.33                             | 2.59                             | 10.2                             | <1                               |                               |                               |
| Selenium   | <2                               | <2                               | <2                               | <2                               | <2                               | <2                               | 2.86                             | <2                               | <2                               | <2                               | <2                               | <2                               | <2                               | <2                               |                               |                               |
| Zinc   | 2350                             | 16.7                             | 220                              | 11.6                             | 15.2                             | 14.4                             | 2290                             | 725                              | 660                              | 263                              | 475                              | 364                              | 314                              | 243                              |                               |                               |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                               |                               |
| Arsenic  |                                  | <100                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 490                           | 190                           |
| Cadmium  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 100                           | 67                            |
| Chromium   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | <80                           | <80                           |
| Copper   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 11000                         | 2300                          |
| Iron   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 40000                         | 29000                         |
| Lead   |                                  | <140                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 3000                          | 3100                          |
| Selenium   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 14                            | 17                            |
| Zinc   |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 2800                          | 2400                          |

Notes are included on Page 5.

**Table F-8**  
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| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-110<br>2 - 3<br>10/18/1999 | EP-110<br>3 - 4<br>10/18/1999 | EP-110<br>4 - 5<br>10/18/1999 | EP-110<br>7 - 8<br>10/18/1999 | EP-71<br>0 - 0.5<br>5/31/1997 | EP-71<br>10 - 10<br>5/31/1997 | EP-71<br>15 - 15<br>5/31/1997 | EP-71<br>25 - 25<br>5/31/1997 | EP-71<br>5 - 5<br>5/31/1997 | EP-71R<br>0 - 0.5<br>6/11/1997 | EP-71R<br>10 - 10<br>6/11/1997 | EP-71R<br>15 - 15<br>6/11/1997 | EP-71R<br>20 - 20<br>6/12/1997 | EP-71R<br>25 - 25<br>6/12/1997 | EP-71R<br>30 - 30<br>6/12/1997 | EP-71R<br>35 - 35<br>6/12/1997 |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                               |                               |                               |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |
| Arsenic  |                               |                               |                               |                               | <20                           | <20                           | <20                           | <20                           | <20                         | 1300                           | <20                            | <20                            | <20                            | <20                            | <20                            | <20                            |
| Cadmium  |                               |                               |                               |                               | 18                            | <10                           | <10                           | <10                           | <10                         | 120                            | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            |
| Chromium   |                               |                               |                               |                               | 36                            | 120                           | 40                            | <30                           | <30                         | 91                             | 38                             | <30                            | 39                             | <30                            | 150                            | <30                            |
| Copper   |                               |                               |                               |                               | 160                           | <20                           | 29                            | 22                            | <20                         | 31000                          | 170                            | <20                            | 25                             | <20                            | 25                             | 35                             |
| Iron   |                               |                               |                               |                               | 10000                         | 15000                         | 14000                         | 29000                         | 17000                       | 45000                          | 11000                          | 18000                          | 19000                          | 23000                          | 20000                          | 19000                          |
| Lead   |                               |                               |                               |                               | 40                            | 49                            | 33                            | 59                            | 20                          | 7200                           | 54                             | <10                            | 20                             | 19                             | 29                             | 13                             |
| Selenium   |                               |                               |                               |                               | <10                           | <10                           | <10                           | <10                           | <10                         | 33                             | <10                            | <10                            | <10                            | <10                            | <10                            | <10                            |
| Zinc   |                               |                               |                               |                               | 720                           | 400                           | 570                           | 79                            | 410                         | 3900                           | 12                             | 31                             | 38                             | 61                             | 63                             | 31                             |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                               |                               |                               |                               |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |
| Arsenic  | 72                            | 71                            | 51                            | 11                            |                               |                               |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |
| Cadmium  | 25                            | <10                           | <10                           | <10                           |                               |                               |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |
| Chromium   | <80                           | <80                           | <80                           | <80                           |                               |                               |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |
| Copper   | 110                           | 30                            | 25                            | 91                            |                               |                               |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |
| Iron   | 22000                         | 25000                         | 25000                         | 25000                         |                               |                               |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |
| Lead   | 210                           | 60                            | 43                            | 84                            |                               |                               |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |
| Selenium   | <10                           | <10                           | <10                           | <10                           |                               |                               |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |
| Zinc   | 170                           | 46                            | 35                            | 120                           |                               |                               |                               |                               |                             |                                |                                |                                |                                |                                |                                |                                |

Notes are included on Page 5.



**Table F-8**  
**Soil Analytical Data - Plant Entrance Arroyo**  
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| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-71R<br>40 - 40<br>6/12/1997 | EP-71R<br>45 - 45<br>6/12/1997 | EP-71R<br>5 - 5<br>6/11/1997 | EP-71R<br>50 - 50<br>6/12/1997 | EP-71R<br>60 - 60<br>6/12/1997 | EP-89<br>0 - 0.5<br>6/18/1997 | EP-89<br>10 - 10<br>6/18/1997 | EP-89<br>15 - 15<br>6/18/1997 | EP-89<br>20 - 20<br>6/18/1997 | EP-89<br>25 - 25<br>6/18/1997 | EP-89<br>30 - 30<br>6/18/1997 | EP-89<br>35 - 35<br>6/18/1997 | EP-89<br>38 - 38<br>6/18/1997 | EP-89<br>5 - 5<br>6/18/1997 | SSENT-1<br>0 - 1<br>7/17/1997 | SSENT-1<br>1.5 - 1.5<br>7/17/1997 |
|--|--------------------------------|--------------------------------|------------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-----------------------------------|
| <b>Metals (mg/kg)</b>                                      |                                |                                |                              |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |
| Arsenic  | <20                            | <20                            | <20                          | <20                            | <20                            | 34                            | <20                           | <20                           | <20                           | <20                           | <20                           | <20                           | <20                           | <20                         |                               |                                   |
| Cadmium  | <10                            | <10                            | <10                          | <10                            | <10                            | 110                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                         |                               |                                   |
| Chromium   | 57                             | 200                            | 51                           | 81                             | 46                             | <30                           | <30                           | 75                            | 54                            | <30                           | 91                            | 46                            | 88                            | 48                          |                               |                                   |
| Copper   | 37                             | 21                             | 340                          | <20                            | <20                            | 4900                          | 160                           | <20                           | <20                           | 38                            | 30                            | 33                            | <20                           | 25                          |                               |                                   |
| Iron   | 16000                          | 19000                          | 14000                        | 18000                          | 17000                          | 27000                         | 32000                         | 25000                         | 19000                         | 20000                         | 17000                         | 13000                         | 12000                         | 23000                       |                               |                                   |
| Lead   | 11                             | <10                            | 90                           | 13                             | <10                            | 9600                          | 180                           | 22                            | 39                            | 92                            | 14                            | 44                            | 14                            | 42                          |                               |                                   |
| Selenium   | <10                            | <10                            | <10                          | <10                            | <10                            | 20                            | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                         |                               |                                   |
| Zinc   | 38                             | 50                             | 56                           | 46                             | 50                             | 4100                          | 200                           | 56                            | 72                            | 180                           | 61                            | 65                            | 32                            | 78                          |                               |                                   |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                                |                              |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                                   |
| Arsenic  |                                |                                |                              |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                             | 470                           | <20                               |
| Cadmium  |                                |                                |                              |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                             | 75                            | <10                               |
| Chromium   |                                |                                |                              |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                             | 69                            | 43                                |
| Copper   |                                |                                |                              |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                             | 9800                          | 230                               |
| Iron   |                                |                                |                              |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                             | 56000                         | 20000                             |
| Lead   |                                |                                |                              |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                             | 5700                          | 300                               |
| Selenium   |                                |                                |                              |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                             | 15                            | <10                               |
| Zinc   |                                |                                |                              |                                |                                |                               |                               |                               |                               |                               |                               |                               |                               |                             | 5700                          | 210                               |

Notes are included on Page 5.

**Table F-8**  
**Soil Analytical Data - Plant Entrance Arroyo**  
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**Former ASARCO Smelter Site**

| <b>Sample Location:</b>            | <b>SSENT-1</b> | <b>SSENT-1</b> | <b>SSENT-2</b> | <b>SSENT-2</b> | <b>SSENT-2</b> | <b>SSENT-2</b> | <b>SSENT-3</b> | <b>SSENT-3</b> | <b>SSENT-5</b> | <b>SSENT-5</b> | <b>SSENT-6</b> | <b>SSENT-6</b> | <b>SSENT-6</b> | <b>SSENT-6</b> | <b>SSENT-10</b> | <b>SSENT-10</b> |
|------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|
| <b>Sample Depth (ft bgs):</b>      | 3 - 3          | 4 - 4          | 0 - 1          | 1.5 - 1.5      | 3 - 3          | 4 - 4          | 0 - 1          | 1.5 - 1.5      | 0 - 1          | 1.5 - 1.5      | 0 - 1          | 1.5 - 1.5      | 3 - 3          | 4 - 4          | 0 - 0.5         | 1 - 1.5         |
| <b>Sample Date:</b>                | 7/17/1997      | 7/17/1997      | 7/17/1997      | 7/17/1997      | 7/17/1997      | 7/17/1997      | 7/17/1997      | 7/17/1997      | 7/17/1997      | 7/17/1997      | 7/17/1997      | 7/17/1997      | 7/17/1997      | 7/17/1997      | 9/12/2014       | 9/12/2014       |
| <b>Metals (mg/kg)</b>              |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                 |                 |
| Arsenic                            |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                 |                 |
| Cadmium                            |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                 |                 |
| Chromium                           |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                 |                 |
| Copper                             |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                 |                 |
| Iron                               |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                 |                 |
| Lead                               |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                 |                 |
| Selenium                           |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                 |                 |
| Zinc                               |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                 |                 |
| <b>Metals (mg/kg) <sup>1</sup></b> |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                 |                 |
| Arsenic                            | <20            | <20            | 340            | <20            | <20            | <20            | 340            | 34             | 750            | <20            | 380            | <20            | <20            | <20            | 228             | 495             |
| Cadmium                            | <10            | <10            | 100            | <10            | <10            | <10            | 99             | <10            | 160            | 12             | 100            | 34             | <10            | <10            | 18              | 81              |
| Chromium                           | 110            | 96             | 180            | 60             | <30            | 31             | 130            | 110            | 200            | 90             | 73             | 47             | 95             | 60             |                 |                 |
| Copper                             | 69             | 65             | 8400           | 400            | 430            | <20            | 8100           | 170            | 12000          | 300            | 5500           | 1800           | 340            | 49             | 2900            | 6102            |
| Iron                               | 19000          | 23000          | 34000          | 24000          | 23000          | 23000          | 27000          | 23000          | 31000          | 22000          | 26000          | 23000          | 21000          | 24000          |                 |                 |
| Lead                               | 160            | 94             | 3300           | 330            | 430            | 26             | 2800           | 160            | 5400           | 280            | 3800           | 2200           | 610            | 38             | 1656            | 3804            |
| Selenium                           | <10            | <10            | 15             | <10            | <10            | <10            | 18             | <10            | <10            | <10            | 16             | <10            | <10            | <10            |                 |                 |
| Zinc                               | 70             | 88             | 3600           | 210            | 250            | 47             | 3000           | 160            | 3600           | 180            | 2500           | 1500           | 380            | 66             |                 |                 |

Notes are included on Page 5.

**Table F-8**  
**Soil Analytical Data - Plant Entrance Arroyo**

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**Former ASARCO Smelter Site**

| Sample Location:                   | SSENT-11  | SSENT-11  | SSENT-12  | SSENT-12  | SSENT-13  | SSENT-13  | SSENT-14  | SSENT-14  | SSENT-15  | SSENT-15  | SSENT-16  | SSENT-16  |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Sample Depth (ft bgs):             | 0 - 0.5   | 1 - 1.5   | 0 - 0.5   | 1 - 1.5   | 0 - 0.5   | 1 - 1.5   | 0 - 0.5   | 1 - 1.5   | 0 - 0.5   | 1 - 1.5   | 0 - 0.5   | 1 - 1.5   |
| Sample Date:                       | 9/12/2014 | 9/12/2014 | 9/12/2014 | 9/12/2014 | 9/12/2014 | 9/12/2014 | 9/15/2014 | 9/15/2014 | 9/15/2014 | 9/15/2014 | 9/15/2014 | 9/15/2014 |
| <b>Metals (mg/kg)</b>              |           |           |           |           |           |           |           |           |           |           |           |           |
| Arsenic                            | 274       | 167       | 101       | 68.3      |           |           | 207       | 87.2      | 200       | 78        | 27.4      | 32.9      |
| Cadmium                            | 47.4      | 36.2      | 24.5      | 13.2      |           |           | 42        | 23.8      | 34.5      | 8.36      | 1.36      | 0.108 J   |
| Chromium                           | 8.65      | 12.5      | 7.8       | 6.12      |           |           | 14.9      | 9.49      | 10.3      | 6.94      | 7.97      | 6.77      |
| Copper                             | 2430      | 1820      | 1680      | 832       |           |           | 3940      | 1160      | 1710      | 345       | 109       | 8.86      |
| Iron                               | 12600     | 11900     | 10600     | 13300     |           |           | 14800     | 10400     | 13900     | 10000     | 8850      | 10800     |
| Lead                               | 1030      | 952       | 1020      | 537       |           |           | 1410      | 876       | 1540      | 387       | 74.8      | 7.74      |
| Selenium                           | 4.78      | 3.78      | 3.34      | 2.18      |           |           | 7.73      | 3.71      | 5.62      | 1.54      | 1.03      | 0.696     |
| Zinc                               | 813       | 689       | 763       | 403       |           |           | 970       | 510       | 932       | 190       | 66.8      | 29.8      |
| <b>Metals (mg/kg) <sup>1</sup></b> |           |           |           |           |           |           |           |           |           |           |           |           |
| Arsenic                            |           |           |           |           | 596       | 254       |           |           |           |           |           |           |
| Cadmium                            |           |           |           |           | 117       | 25        |           |           |           |           |           |           |
| Chromium                           |           |           |           |           |           |           |           |           |           |           |           |           |
| Copper                             |           |           |           |           | 4112      | 1310      |           |           |           |           |           |           |
| Iron                               |           |           |           |           |           |           |           |           |           |           |           |           |
| Lead                               |           |           |           |           | 3390      | 2110      |           |           |           |           |           |           |
| Selenium                           |           |           |           |           |           |           |           |           |           |           |           |           |
| Zinc                               |           |           |           |           |           |           |           |           |           |           |           |           |

**Notes:**

<sup>1</sup> Samples analysed using field x-ray diffraction methods

ft bgs = sample interval in feet below ground surface

mg/kg = miligram per kilogram

SU = Standard (pH) Units

**Table F-9**  
**Soil Analytical Data - La Calvera**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BL25<br>0 - 0.17<br>6/26/2001 | BL25<br>0.17 - 0.33<br>6/26/2001 | BL25<br>1 - 2<br>8/13/2001 | BL26<br>0 - 0.17<br>6/26/2001 | BL26<br>0.17 - 0.33<br>6/26/2001 | BL26<br>1 - 2<br>8/13/2001 | BL27<br>0 - 0.17<br>6/26/2001 | BL27<br>0.17 - 0.33<br>6/26/2001 | BL27<br>1 - 2<br>8/13/2001 | BL28<br>0 - 0.17<br>6/26/2001 | BL28<br>0.17 - 0.33<br>6/26/2001 | BL28<br>1 - 2<br>8/13/2001 | BL29<br>0 - 0.17<br>6/26/2001 | BL29<br>0.17 - 0.33<br>6/26/2001 | BL29<br>1 - 2<br>8/13/2001 | BL30<br>0 - 0.17<br>6/26/2001 | BL30<br>0.17 - 0.33<br>6/26/2001 | BL30<br>1 - 2<br>8/13/2001 |
|--|-------------------------------|----------------------------------|----------------------------|-------------------------------|----------------------------------|----------------------------|-------------------------------|----------------------------------|----------------------------|-------------------------------|----------------------------------|----------------------------|-------------------------------|----------------------------------|----------------------------|-------------------------------|----------------------------------|----------------------------|
| <b>Metals (mg/kg)</b>                                      |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Antimony   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Arsenic  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Barium   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Cadmium  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Chromium   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Cobalt   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Copper   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Iron   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Lead   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Mercury  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Molybdenum   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Nickel   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Selenium   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Silver   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Zinc   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Arsenic  | 56                            | 64                               | 50                         | 30                            | 39                               | 31                         | 20                            | 25                               | 18                         | 38                            | 61                               | 55                         | 192                           | 23                               | 37                         | 145                           | 23                               | 33                         |
| Cadmium  | 18                            | 14                               | <10                        | 10                            | 13                               | 12                         | 14                            | <10                              | 13                         | <10                           | <10                              | <10                        | 42                            | <10                              | <10                        | 24                            | 13                               | <10                        |
| Chromium   | <80                           | <80                              | <80                        | <80                           | <80                              | <80                        | <80                           | <80                              | <80                        | <80                           | <80                              | <80                        | <80                           | <80                              | <80                        | 85                            | <80                              | <80                        |
| Copper   | 381                           | 354                              | 130                        | 151                           | 99                               | 140                        | 96                            | 112                              | 140                        | 79                            | 70                               | 80                         | 1400                          | 38                               | 74                         | 1360                          | 36                               | 57                         |
| Iron   | 12000                         | 9600                             | 13000                      | 10000                         | 10000                            | 12000                      | 9900                          | 14000                            | 12000                      | 15000                         | 15000                            | 13000                      | 16000                         | 12000                            | 11000                      | 32000                         | 13000                            | 14000                      |
| Lead   | 349                           | 403                              | 140                        | 125                           | 136                              | 180                        | 95                            | 146                              | 130                        | 50                            | 65                               | 77                         | 42                            | 48                               | 130                        | 662                           | 44                               | 61                         |
| Selenium   | <20                           | <20                              | <20                        | <20                           | <20                              | <20                        | <20                           | <20                              | <20                        | <20                           | <20                              | <20                        | <20                           | <20                              | <20                        | <20                           | <20                              | <20                        |
| Zinc   | 229                           | 238                              | 53                         | 256                           | 275                              | 190                        | 85                            | 103                              | 110                        | <10                           | <10                              | <10                        | 1100                          | 19                               | 23                         | 1380                          | <10                              | 32                         |
| <b>VOCs (mg/kg)</b>  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| 1,1,1-Trichloroethane                                      |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| 1,1,2-Trichloroethane                                      |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| 1,2-Dichlorobenzene  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Acetone  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Carbon tetrachloride                                       |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Chlorobenzene  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Cyclohexane  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Dichlorodifluoromethane                                    |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Ethyl acetate  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Ethyl ether  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Ethylbenzene   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Methylene chloride   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Tetrachloroethene  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Total Xylenes  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Trichloroethene  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Trichlorofluoromethane                                     |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| <b>SVOCs (mg/kg)</b>                                       |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Hexachlorocyclopentadiene                                  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| <b>Pesticides (mg/kg)</b>                                  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Chlordane  |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Endrin   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |
| Methyl parathion   |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |                               |                                  |                            |

Notes are included on Page 2.

**Table F-9**  
**Soil Analytical Data - La Calvera**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | BL51<br>0 - 0.17<br>6/26/2001 | EP-86<br>0 - 0.5<br>6/13/1997 | EP-86<br>10 - 10<br>6/13/1997 | EP-86<br>15 - 15<br>6/13/1997 | EP-86<br>20 - 20<br>6/13/1997 | EP-86<br>25 - 25<br>6/13/1997 | EP-86<br>30 - 30<br>6/13/1997 | EP-86<br>35 - 35<br>6/13/1997 | EP-86<br>40 - 40<br>6/13/1997 | EP-86<br>45 - 45<br>6/13/1997 | EP-86<br>5 - 5<br>6/13/1997 | EP-86<br>50 - 50<br>6/13/1997 | EP-86<br>55 - 55<br>6/13/1997 | EP-86<br>60 - 60<br>6/13/1997 | SS-VOC5-1<br>0 - 0.5<br>9/29/2011 | SS-VOC5-2<br>0 - 0.5<br>9/29/2011 | SS-VOC5-3<br>0 - 0.5<br>9/29/2011 | WP-SS5<br>0 - 0.5<br>9/26/2011 |           |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------------|-----------|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                |           |
| Antimony   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                | 30        |
| Arsenic  |                               | <20                           | <20                           | <20                           | <20                           | <20                           | <20                           | <20                           | <20                           | <20                           | <20                         | <20                           | <20                           | <20                           |                                   |                                   |                                   |                                | 655       |
| Barium   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                | 417       |
| Cadmium  |                               | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                         | <10                           | <10                           | <10                           |                                   |                                   |                                   |                                | 34.8      |
| Chromium   |                               | <30                           | <30                           | <30                           | 39                            | 30                            | 100                           | <30                           | <30                           | 35                            | <30                         | <30                           | <30                           | 55                            |                                   |                                   |                                   |                                | 12.3      |
| Cobalt   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                | 64        |
| Copper   |                               | 76                            | 31                            | 42                            | 30                            | <20                           | <20                           | 22                            | 30                            | <20                           | <20                         | <20                           | 25                            | <20                           |                                   |                                   |                                   |                                | 2280      |
| Iron   |                               | 19000                         | 21000                         | 22000                         | 16000                         | 13000                         | 9000                          | 9000                          | 12000                         | 14000                         | 15000                       | 7000                          | 18000                         | 13000                         |                                   |                                   |                                   |                                | 45300     |
| Lead   |                               | 87                            | 16                            | 48                            | 39                            | 26                            | 25                            | 14                            | 16                            | 17                            | 33                          | 14                            | <10                           | <10                           |                                   |                                   |                                   |                                | 1820      |
| Mercury  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                | 3.79      |
| Molybdenum   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                | 72.7 J    |
| Nickel   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                | 44.5      |
| Selenium   |                               | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                         | <10                           | <10                           | <10                           |                                   |                                   |                                   |                                | 9.4       |
| Silver   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                | 4.42      |
| Zinc   |                               | 100                           | 57                            | 85                            | 63                            | 52                            | 42                            | 33                            | 23                            | 25                            | 100                         | 19                            | 41                            | 36                            |                                   |                                   |                                   |                                | 7100      |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                |           |
| Arsenic  | 166                           |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                |           |
| Cadmium  | 29                            |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                |           |
| Chromium   | <80                           |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                |           |
| Copper   | 991                           |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                |           |
| Iron   | 7800                          |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                |           |
| Lead   | 1690                          |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                |           |
| Selenium   | <20                           |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                |           |
| Zinc   | 758                           |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                |           |
| <b>VOCs (mg/kg)</b>  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                |           |
| 1,1,1-Trichloroethane                                      |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.000636 UJ                      | <0.000578 UJ                      | <0.00083 UJ                       |                                |           |
| 1,1,2-Trichloro-1,2,2-trifluoroethane                      |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.000608 UJ                      | <0.000553 UJ                      | <0.000795 UJ                      |                                |           |
| 1,1,2-Trichloroethane                                      |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.000454 UJ                      | <0.000413 UJ                      | <0.000593 UJ                      |                                |           |
| 1,2-Dichlorobenzene  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.000227 UJ                      | <0.000206 UJ                      | <0.000297 UJ                      |                                |           |
| 4-Methyl-2-pentanone (MIBK)                                |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.000844 UJ                      | <0.000768 UJ                      | <0.0011 UJ                        |                                |           |
| Acetone  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | 0.0118 J                          | <0.00594 UJ                       | <0.00854 UJ                       |                                |           |
| Carbon tetrachloride                                       |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.000463 UJ                      | <0.000421 UJ                      | <0.000605 UJ                      |                                |           |
| Chlorobenzene  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.000209 UJ                      | <0.00019 UJ                       | <0.000273 UJ                      |                                |           |
| Cyclohexane  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.000899 UJ                      | <0.000817 UJ                      | <0.00117 UJ                       |                                |           |
| Dichlorodifluoromethane                                    |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.000663 UJ                      | <0.000602 UJ                      | <0.000866 UJ                      |                                |           |
| Ethyl acetate  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.00109 UJ                       | <0.00099 UJ                       | <0.00142 UJ                       |                                |           |
| Ethyl ether  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.000154 UJ                      | <0.00014 UJ                       | <0.000202 UJ                      |                                |           |
| Ethylbenzene   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.0002 UJ                        | <0.000182 UJ                      | <0.000261 UJ                      |                                |           |
| Methylene chloride   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.00454 UJ                       | <0.00413 UJ                       | <0.00593 UJ                       |                                |           |
| Tetrachloroethene  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.000672 UJ                      | <0.000611 UJ                      | <0.000878 UJ                      |                                |           |
| Total Xylenes  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | 0.000691 J                        | <0.000297 UJ                      | <0.000427 UJ                      |                                |           |
| Trichloroethene  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | <0.000254 UJ                      | <0.000231 UJ                      | <0.000332 UJ                      |                                |           |
| Trichlorofluoromethane                                     |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               | 0.00142 J                         | 0.000533 J                        | 0.00152 J                         |                                |           |
| <b>SVOCs (mg/kg)</b>                                       |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                |           |
| Hexachlorocyclopentadiene                                  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                | <0.101    |
| <b>Pesticides (mg/kg)</b>                                  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                |           |
| Chlordane  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                | <0.0189   |
| Endrin   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                | <0.000839 |
| Methyl parathion   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                               |                               |                               |                                   |                                   |                                   |                                | <0.00846  |

**Notes:**

<sup>1</sup> Samples analysed using field x-ray diffraction methods  
ft bgs = sample interval in feet below ground surface  
mg/kg = miligram per kilogram

SU = Standard (pH) Units  
SVOC = Semivolatile Organic Compound  
VOC = Volatile Organic Compound

**Laboratory Qualifiers:**

J = Estimated value reported. In the majority of cases this represents a value less than the contract required quantitation limit, but greater than the method detection limit.  
U = Compound was analyzed for but not detected. The value shown in the laboratory method detection limit.

**Table F-10**  
Soil Analytical Data - Floodplain

**Supplemental Remedial Investigation Report**  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | A5-1<br>0 - 0.5<br>5/5/2008 | A5-2<br>0 - 0.5<br>5/5/2008 | BH5-11<br>0 - 1<br>10/30/2002 | BH5-11<br>1 - 2<br>10/30/2002 | BH5-11<br>10 - 12<br>10/30/2002 | BH5-11<br>15 - 17<br>10/30/2002 | BH5-11<br>2 - 3<br>10/30/2002 | BH5-11<br>3 - 4<br>10/30/2002 | BH5-11<br>4 - 5<br>10/30/2002 | BH5-11<br>7 - 9<br>10/30/2002 | BH5-13<br>0 - 1<br>10/30/2002 | BH5-13<br>1 - 2<br>10/30/2002 | BH5-13<br>12 - 14<br>10/30/2002 | BH5-13<br>15 - 17<br>10/30/2002 | BH5-13<br>20 - 22<br>10/30/2002 | BH5-13<br>4 - 5<br>10/30/2002 | BH5-13<br>7 - 9<br>10/30/2002 | EP-119<br>0 - 1<br>4/2/2001 | EP-119<br>1 - 2<br>4/2/2001 | EP-119<br>10 - 11<br>4/2/2001 | EP-119<br>2 - 3<br>4/2/2001 |  |
|--|-----------------------------|-----------------------------|-------------------------------|-------------------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|-------------------------------|-----------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                             |                             |                               |                               |                                 |                                 |                               |                               |                               |                               |                               |                               |                                 |                                 |                                 |                               |                               |                             |                             |                               |                             |  |
| Arsenic  | <2                          | 20.4                        | 144                           | 115                           | 13                              | 12                              | 95                            | 36                            | 23                            | <10                           | 85                            | 58                            | 12                              | <10                             | <10                             | 79                            | <10                           |                             |                             |                               |                             |  |
| Cadmium  |                             |                             | 62                            | 13                            | <5                              | <5                              | 26                            | <5                            | <5                            | <5                            | 25                            | 14                            | <5                              | <5                              | <5                              | 24                            | <5                            |                             |                             |                               |                             |  |
| Chromium   |                             |                             | 27                            | 20                            | 15                              | 21                              | 18                            | 21                            | 20                            | 11                            | 27                            | 12                            | 12                              | 19                              | 12                              | 19                            | 15                            |                             |                             |                               |                             |  |
| Copper   |                             |                             | 1780                          | 604                           | 30                              | 12                              | 1220                          | 210                           | 178                           | <10                           | 1100                          | 604                           | 111                             | 17                              | <10                             | 738                           | 15                            |                             |                             |                               |                             |  |
| Iron   |                             |                             | 14900                         | 16600                         | 11700                           | 13000                           | 14300                         | 15300                         | 18900                         | 12300                         | 13200                         | 8900                          | 14200                           | 21400                           | 13000                           | 14400                         | 18500                         |                             |                             |                               |                             |  |
| Lead   | 6.05                        | 6.07                        | 1480                          | 646                           | 25                              | 12                              | 801                           | 246                           | 129                           | <10                           | 972                           | 655                           | 76                              | 13                              | <10                             | 654                           | 13                            |                             |                             |                               |                             |  |
| Selenium   |                             |                             | <10                           | <10                           | <10                             | <10                             | <10                           | <10                           | <10                           | <10                           | <10                           | <10                           | <10                             | <10                             | <10                             | <10                           | <10                           |                             |                             |                               |                             |  |
| Zinc   |                             |                             | 908                           | 359                           | 44                              | 37                              | 490                           | 174                           | 120                           | 35                            | 511                           | 322                           | 84                              | 65                              | 35                              | 448                           | 55                            |                             |                             |                               |                             |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                             |                             |                               |                               |                                 |                                 |                               |                               |                               |                               |                               |                               |                                 |                                 |                                 |                               |                               |                             |                             |                               |                             |  |
| Arsenic  |                             |                             |                               |                               |                                 |                                 |                               |                               |                               |                               |                               |                               |                                 |                                 |                                 |                               |                               | 160                         | 64                          | 27                            | 91                          |  |
| Cadmium  |                             |                             |                               |                               |                                 |                                 |                               |                               |                               |                               |                               |                               |                                 |                                 |                                 |                               |                               | 35                          | 20                          | <10                           | 21                          |  |
| Chromium   |                             |                             |                               |                               |                                 |                                 |                               |                               |                               |                               |                               |                               |                                 |                                 |                                 |                               |                               | <80                         | <80                         | <80                           | 93                          |  |
| Copper   |                             |                             |                               |                               |                                 |                                 |                               |                               |                               |                               |                               |                               |                                 |                                 |                                 |                               |                               | 2000                        | 640                         | 38                            | 860                         |  |
| Iron   |                             |                             |                               |                               |                                 |                                 |                               |                               |                               |                               |                               |                               |                                 |                                 |                                 |                               |                               | 14000                       | 14000                       | 15000                         | 24000                       |  |
| Lead   |                             |                             |                               |                               |                                 |                                 |                               |                               |                               |                               |                               |                               |                                 |                                 |                                 |                               |                               | 800                         | 550                         | 41                            | 660                         |  |
| Selenium   |                             |                             |                               |                               |                                 |                                 |                               |                               |                               |                               |                               |                               |                                 |                                 |                                 |                               |                               | <20                         | <20                         | <20                           | <20                         |  |
| Zinc   |                             |                             |                               |                               |                                 |                                 |                               |                               |                               |                               |                               |                               |                                 |                                 |                                 |                               |                               | 870                         | 450                         | <10                           | 410                         |  |

Notes are included on Page 7.

**Table F-10**  
**Soil Analytical Data - Floodplain**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-119<br>3 - 4<br>4/2/2001 | EP-119<br>4 - 5<br>4/2/2001 | EP-122<br>0 - 1<br>4/12/2001 | EP-122<br>1 - 2<br>4/12/2001 | EP-122<br>2 - 3<br>4/12/2001 | EP-122<br>3 - 4<br>4/12/2001 | EP-122<br>4 - 5<br>4/12/2001 | EP-122D<br>21 - 22<br>5/1/2007 | EP-122D<br>26 - 27<br>5/1/2007 | EP-122D<br>35 - 36<br>5/1/2007 | EP-122D<br>41 - 42<br>5/1/2007 | EP-122D<br>49 - 50<br>5/1/2007 | EP-122D<br>8 - 9<br>5/1/2007 | EP122-OBS1<br>16 - 17<br>5/1/2007 | EP122-OBS1<br>21 - 22<br>5/1/2007 | EP122-OBS1<br>26 - 27<br>5/1/2007 | EP122-OBS1<br>5 - 7<br>5/1/2007 | EP-132<br>0 - 1<br>6/4/2001 | EP-132<br>1 - 2<br>6/4/2001 | EP-132<br>10 - 11<br>6/4/2001 | EP-132<br>15 - 16<br>6/4/2001 |
|--|-----------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|---------------------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                             |                             |                              |                              |                              |                              |                              |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 |                             |                             |                               |                               |
| Arsenic  |                             |                             |                              |                              |                              |                              |                              | 12.9                           | 17.3                           | 16.6                           | 16.3                           | 2.9                            | 12.3                         | 10.1                              | <2.5                              | 27.9                              | 9.5                             |                             |                             |                               |                               |
| Cadmium  |                             |                             |                              |                              |                              |                              |                              |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 |                             |                             |                               |                               |
| Chromium   |                             |                             |                              |                              |                              |                              |                              |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 |                             |                             |                               |                               |
| Copper   |                             |                             |                              |                              |                              |                              |                              |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 |                             |                             |                               |                               |
| Iron   |                             |                             |                              |                              |                              |                              |                              | 11200                          | 10100                          | 9930                           | 13600                          | 15600                          | 12200                        | 12100                             | 12700                             | 9610                              | 15700                           |                             |                             |                               |                               |
| Lead   |                             |                             |                              |                              |                              |                              |                              |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 |                             |                             |                               |                               |
| Selenium   |                             |                             |                              |                              |                              |                              |                              |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 |                             |                             |                               |                               |
| Zinc   |                             |                             |                              |                              |                              |                              |                              |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 |                             |                             |                               |                               |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                             |                             |                              |                              |                              |                              |                              |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 |                             |                             |                               |                               |
| Arsenic  | 18                          | 31                          | 200                          | 110                          | 42                           | 37                           | 29                           |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 | 110                         | 230                         | 35                            | 31                            |
| Cadmium  | <10                         | <10                         | 74                           | 53                           | 11                           | <10                          | <10                          |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 | 22                          | 48                          | 13                            | 11                            |
| Chromium   | <80                         | <80                         | <80                          | <80                          | <80                          | <80                          | <80                          |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 | <80                         | <80                         | <80                           | <80                           |
| Copper   | 47                          | 130                         | 2600                         | 1400                         | 260                          | 57                           | 38                           |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 | 1400                        | 1600                        | 100                           | <20                           |
| Iron   | 11000                       | 15000                       | 22000                        | 19000                        | 13000                        | 13000                        | 14000                        |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 | 15000                       | 16000                       | 14000                         | 13000                         |
| Lead   | 36                          | 97                          | 1400                         | 890                          | 230                          | 100                          | 42                           |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 | 890                         | 1800                        | 99                            | 42                            |
| Selenium   | <20                         | <20                         | <20                          | <20                          | <20                          | <20                          | <20                          |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 | <20                         | <20                         | <20                           | <20                           |
| Zinc   | <10                         | 55                          | 2000                         | 1200                         | 170                          | 21                           | <10                          |                                |                                |                                |                                |                                |                              |                                   |                                   |                                   |                                 | 480                         | 920                         | 41                            | <10                           |

Notes are included on Page 7.

**Table F-10**  
**Soil Analytical Data - Floodplain**

**Supplemental Remedial Investigation Report**  
**Former ASARCO Smelter Site**

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | EP-132<br>2 - 3<br>6/4/2001 | EP-132<br>3 - 4<br>6/4/2001 | EP-132<br>4 - 5<br>6/4/2001 | EP-135<br>0 - 1<br>10/29/2002 | EP-135<br>1 - 2<br>10/29/2002 | EP-135<br>13 - 15<br>10/29/2002 | EP-135<br>2 - 3<br>10/29/2002 | EP-135<br>3 - 4<br>10/29/2002 | EP-135<br>4 - 5<br>10/29/2002 | EP-135<br>7 - 9<br>10/29/2002 | EP-80<br>0 - 0.5<br>6/6/1997 | EP-80<br>10 - 10<br>6/6/1997 | EP-80<br>15 - 15<br>6/6/1997 | EP-80<br>20 - 20<br>6/6/1997 | EP-80<br>25 - 25<br>6/6/1997 | EP-80<br>5 - 5<br>6/6/1997 | RIIBH10<br>0 - 1<br>7/1/1997 | RIIBH10<br>10 - 10<br>7/1/1997 | RIIBH10<br>5 - 5<br>7/1/1997 | RIIBH7<br>0 - 1<br>7/1/1997 | RIIBH7<br>10 - 10<br>7/1/1997 |
|--|-----------------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|----------------------------|------------------------------|--------------------------------|------------------------------|-----------------------------|-------------------------------|
| <b>Metals (mg/kg)</b>                                      |                             |                             |                             |                               |                               |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                              |                            |                              |                                |                              |                             |                               |
| Arsenic  |                             |                             |                             | 74                            | 42                            | 31                              | 64                            | 13                            | 11                            | 21                            | 26                           | <20                          | <20                          | <20                          | <20                          | <20                        |                              |                                |                              |                             |                               |
| Cadmium  |                             |                             |                             | 12                            | <5                            | <5                              | 15                            | <5                            | <5                            | <5                            | <10                          | <10                          | <10                          | <10                          | <10                          | <10                        |                              |                                |                              |                             |                               |
| Chromium   |                             |                             |                             | 32                            | 22                            | 13                              | 23                            | 15                            | 20                            | 14                            | 41                           | <30                          | 49                           | 79                           | <30                          | <30                        |                              |                                |                              |                             |                               |
| Copper   |                             |                             |                             | 523                           | 37                            | <10                             | 402                           | 10                            | 12                            | <10                           | 160                          | <20                          | <20                          | 34                           | <20                          | 34                         |                              |                                |                              |                             |                               |
| Iron   |                             |                             |                             | 14100                         | 12800                         | 11650                           | 12700                         | 13800                         | 13100                         | 13400                         | 14000                        | 18000                        | 18000                        | 13000                        | 14000                        | 16000                      |                              |                                |                              |                             |                               |
| Lead   |                             |                             |                             | 704                           | 181                           | <10                             | 439                           | 11                            | 19                            | <10                           | 95                           | 32                           | 10                           | 23                           | 15                           | 46                         |                              |                                |                              |                             |                               |
| Selenium   |                             |                             |                             | <10                           | <10                           | <10                             | <10                           | <10                           | <10                           | <10                           | <10                          | <10                          | <10                          | <10                          | <10                          | <10                        |                              |                                |                              |                             |                               |
| Zinc   |                             |                             |                             | 734                           | 85                            | 35                              | 285                           | 43                            | 41                            | 38                            | 200                          | 29                           | 31                           | 36                           | 30                           | 79                         |                              |                                |                              |                             |                               |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                             |                             |                             |                               |                               |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                              |                            |                              |                                |                              |                             |                               |
| Arsenic  | 51                          | 18                          | 29                          |                               |                               |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                              |                            | 46                           | <20                            | <20                          | 53                          | <20                           |
| Cadmium  | 19                          | <10                         | <10                         |                               |                               |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                              |                            | <10                          | <10                            | <10                          | 28                          | <10                           |
| Chromium   | <80                         | <80                         | <80                         |                               |                               |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                              |                            | <30                          | 72                             | <30                          | 130                         | 74                            |
| Copper   | 260                         | 32                          | 34                          |                               |                               |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                              |                            | 760                          | <20                            | 85                           | 1500                        | 31                            |
| Iron   | 15000                       | 14000                       | 17000                       |                               |                               |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                              |                            | 18000                        | 17000                          | 17000                        | 21000                       | 23000                         |
| Lead   | 400                         | 38                          | 56                          |                               |                               |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                              |                            | 400                          | 21                             | 40                           | 1000                        | 24                            |
| Selenium   | <20                         | <20                         | <20                         |                               |                               |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                              |                            | <10                          | <10                            | <10                          | <10                         | <10                           |
| Zinc   | 170                         | 10                          | 21                          |                               |                               |                                 |                               |                               |                               |                               |                              |                              |                              |                              |                              |                            | 360                          | 25                             | 61                           | 780                         | 71                            |

Notes are included on Page 7.



**Table F-10**  
Soil Analytical Data - Floodplain

Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | RI1BH7<br>5 - 5<br>7/1/1997 | RI1BH8<br>0 - 1<br>7/1/1997 | RI1BH8<br>10 - 10<br>7/1/1997 | RI1BH8<br>5 - 5<br>7/1/1997 | RI1BH9<br>0 - 1<br>7/1/1997 | RI1BH9<br>10 - 10<br>7/1/1997 | RI1BH9<br>5 - 5<br>7/1/1997 | SSIA5-1<br>0 - 1<br>7/7/1997 | SSIA5-1<br>1.5 - 1.5<br>7/8/1997 | SSIA5-1<br>3 - 3<br>7/8/1997 | SSIA5-1<br>4 - 4<br>7/8/1997 | SSIA5-10<br>0 - 1<br>7/8/1997 | SSIA5-10<br>1.5 - 1.5<br>7/8/1997 | SSIA5-10<br>3 - 3<br>7/8/1997 | SSIA5-10<br>4 - 4<br>7/8/1997 | SSIA5-11<br>0 - 1<br>7/8/1997 | SSIA5-11<br>1.5 - 1.5<br>7/8/1997 | SSIA5-11<br>3 - 3<br>7/8/1997 | SSIA5-11<br>4 - 4<br>7/8/1997 | SSIA5-12<br>0 - 1<br>7/8/1997 | SSIA5-12<br>1.5 - 1.5<br>7/8/1997 |     |
|--|-----------------------------|-----------------------------|-------------------------------|-----------------------------|-----------------------------|-------------------------------|-----------------------------|------------------------------|----------------------------------|------------------------------|------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-----|
| <b>Metals (mg/kg)</b>                                      |                             |                             |                               |                             |                             |                               |                             |                              |                                  |                              |                              |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |     |
| Arsenic  |                             |                             |                               |                             |                             |                               |                             |                              |                                  |                              |                              |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |     |
| Cadmium  |                             |                             |                               |                             |                             |                               |                             |                              |                                  |                              |                              |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |     |
| Chromium   |                             |                             |                               |                             |                             |                               |                             |                              |                                  |                              |                              |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |     |
| Copper   |                             |                             |                               |                             |                             |                               |                             |                              |                                  |                              |                              |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |     |
| Iron   |                             |                             |                               |                             |                             |                               |                             |                              |                                  |                              |                              |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |     |
| Lead   |                             |                             |                               |                             |                             |                               |                             |                              |                                  |                              |                              |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |     |
| Selenium   |                             |                             |                               |                             |                             |                               |                             |                              |                                  |                              |                              |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |     |
| Zinc   |                             |                             |                               |                             |                             |                               |                             |                              |                                  |                              |                              |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |     |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                             |                             |                               |                             |                             |                               |                             |                              |                                  |                              |                              |                               |                                   |                               |                               |                               |                                   |                               |                               |                               |                                   |     |
| Arsenic  | <20                         | 120                         | <20                           | <20                         | 63                          | <20                           | <20                         | 240                          | 28                               | <20                          | <20                          | 130                           | <20                               | <20                           | <20                           | <20                           | <20                               | <20                           | <20                           | <20                           | 21                                | <20 |
| Cadmium  | <10                         | 120                         | <10                           | <10                         | 46                          | <10                           | <10                         | 130                          | 17                               | <10                          | <10                          | 110                           | <10                               | <10                           | <10                           | 22                            | 23                                | <10                           | <10                           | 19                            | 11                                |     |
| Chromium   | 89                          | 63                          | 64                            | 31                          | <30                         | <30                           | 80                          | 46                           | <30                              | 110                          | 99                           | 34                            | 30                                | <30                           | 33                            | 36                            | 66                                | 130                           | 68                            | 41                            | 100                               |     |
| Copper   | 55                          | 3800                        | 27                            | 22                          | 1600                        | 31                            | 22                          | 6600                         | 400                              | <20                          | 34                           | 3900                          | 320                               | 360                           | 230                           | 1100                          | 570                               | 330                           | 33                            | 810                           | 430                               |     |
| Iron   | 19000                       | 22000                       | 20000                         | 16000                       | 23000                       | 18000                         | 15000                       | 21000                        | 19000                            | 21000                        | 21000                        | 19000                         | 17000                             | 18000                         | 18000                         | 21000                         | 19000                             | 18000                         | 31000                         | 21000                         | 20000                             |     |
| Lead   | 19                          | 3300                        | 17                            | 29                          | 1100                        | 33                            | 11                          | 4200                         | 420                              | 21                           | 58                           | 2800                          | 250                               | 300                           | 200                           | 740                           | 470                               | 230                           | 31                            | 540                           | 440                               |     |
| Selenium   | <10                         | 14                          | <10                           | <10                         | <10                         | <10                           | <10                         | 30                           | <10                              | <10                          | <10                          | 12                            | <10                               | <10                           | <10                           | <10                           | <10                               | <10                           | <10                           | <10                           | <10                               |     |
| Zinc   | 47                          | 3100                        | 48                            | 35                          | 1500                        | 31                            | 30                          | 2400                         | 200                              | 43                           | 63                           | 2500                          | 200                               | 270                           | 180                           | 630                           | 360                               | 200                           | 74                            | 440                           | 340                               |     |

Notes are included on Page 7.

**Table F-10**  
Soil Analytical Data - Floodplain

Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SSIA5-12<br>3 - 3<br>7/8/1997 | SSIA5-12<br>4 - 4<br>7/8/1997 | SSIA5-13<br>0 - 1<br>7/8/1997 | SSIA5-13<br>1.5 - 1.5<br>7/8/1997 | SSIA5-13<br>3 - 3<br>7/8/1997 | SSIA5-13<br>4 - 4<br>7/8/1997 | SSIA5-14<br>0 - 1<br>7/8/1997 | SSIA5-14<br>1.5 - 1.5<br>7/8/1997 | SSIA5-14<br>3 - 3<br>7/8/1997 | SSIA5-14<br>4 - 4<br>7/8/1997 | SSIA5-15<br>0 - 1<br>7/14/1997 | SSIA5-15<br>1.5 - 1.5<br>7/14/1997 | SSIA5-15<br>3 - 3<br>7/14/1997 | SSIA5-15<br>4 - 4<br>7/14/1997 | SSIA5-16<br>0 - 1<br>7/14/1997 | SSIA5-16<br>1.5 - 1.5<br>7/14/1997 | SSIA5-16<br>3 - 3<br>7/14/1997 | SSIA5-16<br>4 - 4<br>7/14/1997 | SSIA5-17<br>0 - 1<br>7/14/1997 | SSIA5-17<br>1.5 - 1.5<br>7/14/1997 | SSIA5-17<br>3 - 3<br>7/14/1997 |       |
|--|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|-------|
| <b>Metals (mg/kg)</b>                                      |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |       |
| Arsenic  |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               | 86                             | <20                                |                                |                                | 27                             | <20                                |                                |                                |                                | 83                                 | 24                             |       |
| Cadmium  |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               | 20                             | <10                                |                                |                                | 24                             | <10                                |                                |                                |                                | 85                                 | <10                            |       |
| Chromium   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               | 74                             | 32                                 |                                |                                | 89                             | <30                                |                                |                                |                                | <30                                | <30                            |       |
| Copper   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               | 2800                           | 39                                 |                                |                                | 1000                           | 200                                |                                |                                |                                | 1800                               | 150                            |       |
| Iron   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               | 23000                          | 17000                              |                                |                                | 32000                          | 20000                              |                                |                                |                                | 23000                              | 18000                          |       |
| Lead   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               | 420                            | 34                                 |                                |                                | 610                            | 150                                |                                |                                |                                | 1100                               | 140                            |       |
| Selenium   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               | <10                            | <10                                |                                |                                | <10                            | <10                                |                                |                                |                                | <10                                | <10                            |       |
| Zinc   |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               | 900                            | 59                                 |                                |                                | 650                            | 190                                |                                |                                |                                | 1400                               | 150                            |       |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                               |                               |                               |                                   |                               |                               |                               |                                   |                               |                               |                                |                                    |                                |                                |                                |                                    |                                |                                |                                |                                    |                                |       |
| Arsenic  | <20                           | <20                           | 87                            | <20                               | <20                           | <20                           | 78                            | 10                                | <20                           | <20                           |                                |                                    |                                | <20                            | <20                            |                                    |                                |                                | <20                            | <20                                |                                | 24    |
| Cadmium  | <10                           | <10                           | 36                            | <10                               | <10                           | <10                           | <10                           | <10                               | <10                           | <10                           |                                |                                    |                                | <10                            | <10                            |                                    |                                |                                | <10                            | <10                                |                                | <10   |
| Chromium   | 52                            | 41                            | 69                            | <30                               | 87                            | <30                           | 60                            | <30                               | 56                            | 190                           |                                |                                    |                                | 150                            | 120                            |                                    |                                |                                | <30                            | 46                                 |                                | 80    |
| Copper   | <20                           | 130                           | 2200                          | 100                               | 190                           | 42                            | 1300                          | 120                               | <20                           | <20                           |                                |                                    |                                | <20                            | <20                            |                                    |                                |                                | 21                             | 23                                 |                                | 57    |
| Iron   | 27000                         | 30000                         | 17000                         | 18000                             | 19000                         | 21000                         | 14000                         | 19000                             | 17000                         | 18000                         |                                |                                    |                                | 20000                          | 20000                          |                                    |                                |                                | 20000                          | 23000                              |                                | 17000 |
| Lead   | 38                            | 110                           | 830                           | 110                               | 160                           | 35                            | 170                           | 130                               | 12                            | 11                            |                                |                                    |                                | 13                             | 22                             |                                    |                                |                                | 11                             | 18                                 |                                | 63    |
| Selenium   | <10                           | <10                           | <10                           | <10                               | <10                           | <10                           | <10                           | <10                               | <10                           | <10                           |                                |                                    |                                | <10                            | <10                            |                                    |                                |                                | <10                            | <10                                |                                | <10   |
| Zinc   | 72                            | 120                           | 850                           | 100                               | 130                           | 61                            | 220                           | 54                                | 28                            | 38                            |                                |                                    |                                | 48                             | 47                             |                                    |                                |                                | 48                             | 81                                 |                                | 90    |

Notes are included on Page 7.

**Table F-10**  
Soil Analytical Data - Floodplain

Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SSIA5-17<br>4 - 4<br>7/14/1997 | SSIA5-18<br>0 - 1<br>7/14/1997 | SSIA5-18<br>1.5 - 1.5<br>7/14/1997 | SSIA5-18<br>3 - 3<br>7/14/1997 | SSIA5-18<br>4 - 4<br>7/14/1997 | SSIA5-19<br>0 - 1<br>7/14/1997 | SSIA5-19<br>1.5 - 1.5<br>7/14/1997 | SSIA5-19<br>3 - 3<br>7/14/1997 | SSIA5-19<br>4 - 4<br>7/14/1997 | SSIA5-2<br>0 - 1<br>7/8/1997 | SSIA5-2<br>1.5 - 1.5<br>7/8/1997 | SSIA5-2<br>3 - 3<br>7/8/1997 | SSIA5-2<br>4 - 4<br>7/8/1997 | SSIA5-3<br>0 - 1<br>7/8/1997 | SSIA5-3<br>1.5 - 1.5<br>7/8/1997 | SSIA5-3<br>3 - 3<br>7/8/1997 | SSIA5-3<br>4 - 4<br>7/8/1997 | SSIA5-4<br>0 - 1<br>7/8/1997 | SSIA5-4<br>1.5 - 1.5<br>7/8/1997 | SSIA5-4<br>3 - 3<br>7/8/1997 | SSIA5-4<br>4 - 4<br>7/8/1997 |  |
|--|--------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|------------------------------|----------------------------------|------------------------------|------------------------------|------------------------------|----------------------------------|------------------------------|------------------------------|------------------------------|----------------------------------|------------------------------|------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Arsenic  |                                | 26                             | <20                                |                                |                                | 160                            | <20                                |                                |                                |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Cadmium  |                                | 11                             | <10                                |                                |                                | 150                            | 29                                 |                                |                                |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Chromium   |                                | <30                            | <30                                |                                |                                | 39                             | <30                                |                                |                                |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Copper   |                                | 1200                           | 27                                 |                                |                                | 3400                           | 370                                |                                |                                |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Iron   |                                | 20000                          | 16000                              |                                |                                | 28000                          | 15000                              |                                |                                |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Lead   |                                | 200                            | 15                                 |                                |                                | 2400                           | 310                                |                                |                                |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Selenium   |                                | <10                            | <10                                |                                |                                | 18                             | <10                                |                                |                                |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Zinc   |                                | 430                            | 28                                 |                                |                                | 3300                           | 430                                |                                |                                |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                                |                                |                                    |                                |                                |                                |                                    |                                |                                |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Arsenic  | <20                            |                                |                                    | <20                            | <20                            |                                |                                    | <20                            | <20                            | 71                           | 22                               | <20                          | 27                           | 130                          | <20                              | <20                          | 60                           | 37                           | <20                              | 100                          | <20                          |  |
| Cadmium  | <10                            |                                |                                    | <10                            | <10                            |                                |                                    | 13                             | 15                             | 66                           | <10                              | <10                          | <10                          | 110                          | 16                               | <10                          | 17                           | 41                           | 44                               | 46                           | <10                          |  |
| Chromium   | 140                            |                                |                                    | 160                            | <30                            |                                |                                    | 68                             | 59                             | <30                          | 82                               | 85                           | 160                          | 170                          | <30                              | 52                           | 150                          | 30                           | 37                               | 120                          | 88                           |  |
| Copper   | <20                            |                                |                                    | 21                             | <20                            |                                |                                    | 230                            | 270                            | 1100                         | 42                               | 81                           | 71                           | 7200                         | 1200                             | 570                          | 920                          | 1800                         | 1600                             | 1900                         | 76                           |  |
| Iron   | 19000                          |                                |                                    | 17000                          | 18000                          |                                |                                    | 26000                          | 25000                          | 20000                        | 19000                            | 19000                        | 21000                        | 25000                        | 19000                            | 19000                        | 22000                        | 21000                        | 23000                            | 24000                        | 28000                        |  |
| Lead   | 24                             |                                |                                    | 32                             | 26                             |                                |                                    | 860                            | 810                            | 580                          | 44                               | 95                           | 82                           | 2700                         | 850                              | 410                          | 590                          | 1100                         | 1800                             | 2200                         | 81                           |  |
| Selenium   | <10                            |                                |                                    | <10                            | <10                            |                                |                                    | <10                            | <10                            | <10                          | <10                              | <10                          | <10                          | <10                          | <10                              | <10                          | <10                          | 11                           | 12                               | 12                           | <10                          |  |
| Zinc   | 50                             |                                |                                    | 41                             | 44                             |                                |                                    | 1800                           | 1500                           | 410                          | 28                               | 77                           | 55                           | 2000                         | 590                              | 300                          | 400                          | 770                          | 1100                             | 1300                         | 130                          |  |

Notes are included on Page 7.

**Table F-10**  
Soil Analytical Data - Floodplain

Supplemental Remedial Investigation Report  
Former ASARCO Smelter Site

| Sample Location:<br>Sample Depth (ft bgs):<br>Sample Date: | SSIA5-5<br>0 - 1<br>7/8/1997 | SSIA5-5<br>1.5 - 1.5<br>7/8/1997 | SSIA5-5<br>3 - 3<br>7/8/1997 | SSIA5-5<br>4 - 4<br>7/8/1997 | SSIA5-6<br>0 - 1<br>7/8/1997 | SSIA5-6<br>1.5 - 1.5<br>7/8/1997 | SSIA5-6<br>3 - 3<br>7/8/1997 | SSIA5-6<br>4 - 4<br>7/8/1997 | SSIA5-7<br>0 - 1<br>7/8/1997 | SSIA5-7<br>1.5 - 1.5<br>7/8/1997 | SSIA5-7<br>3 - 3<br>7/8/1997 | SSIA5-7<br>4 - 4<br>7/8/1997 | SSIA5-8<br>0 - 1<br>7/8/1997 | SSIA5-8<br>1.5 - 1.5<br>7/8/1997 | SSIA5-8<br>3 - 3<br>7/8/1997 | SSIA5-8<br>4 - 4<br>7/8/1997 | SSIA5-9<br>0 - 1<br>7/8/1997 | SSIA5-9<br>1.5 - 1.5<br>7/8/1997 | SSIA5-9<br>3 - 3<br>7/8/1997 | SSIA5-9<br>4 - 4<br>7/8/1997 |  |
|--|------------------------------|----------------------------------|------------------------------|------------------------------|------------------------------|----------------------------------|------------------------------|------------------------------|------------------------------|----------------------------------|------------------------------|------------------------------|------------------------------|----------------------------------|------------------------------|------------------------------|------------------------------|----------------------------------|------------------------------|------------------------------|--|
| <b>Metals (mg/kg)</b>                                      |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Arsenic  |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Cadmium  |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Chromium   |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Copper   |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Iron   |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Lead   |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Selenium   |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Zinc   |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| <b>Metals (mg/kg) <sup>1</sup></b>                         |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |                              |                                  |                              |                              |  |
| Arsenic  | <20                          | <20                              | <20                          | <20                          | <20                          | <20                              | <20                          | <20                          | 110                          | <20                              | <20                          | <20                          | 31                           | 32                               | 20                           | <20                          | 90                           | <20                              | <20                          | <20                          |  |
| Cadmium  | 36                           | <10                              | <10                          | <10                          | 14                           | 10                               | 13                           | 15                           | 56                           | <10                              | <10                          | <10                          | 42                           | <10                              | <10                          | <10                          | 39                           | <10                              | <10                          | <10                          |  |
| Chromium   | 30                           | <30                              | 63                           | 66                           | <30                          | 97                               | 74                           | 71                           | <30                          | <30                              | <30                          | 37                           | 47                           | <30                              | <30                          | <30                          | <30                          | 68                               | 58                           | 52                           |  |
| Copper   | 1100                         | 130                              | 130                          | 56                           | 650                          | 310                              | 370                          | 460                          | 3800                         | 59                               | <20                          | 30                           | 2800                         | <20                              | <20                          | 42                           | 2800                         | 260                              | 80                           | 57                           |  |
| Iron   | 20000                        | 21000                            | 22000                        | 29000                        | 20000                        | 21000                            | 20000                        | 21000                        | 24000                        | 17000                            | 19000                        | 21000                        | 21000                        | 16000                            | 31000                        | 30000                        | 23000                        | 17000                            | 19000                        | 19000                        |  |
| Lead   | 1200                         | 210                              | 160                          | 63                           | 370                          | 370                              | 430                          | 500                          | 1700                         | 68                               | 27                           | 27                           | 1200                         | 30                               | 32                           | 25                           | 800                          | 110                              | 46                           | 30                           |  |
| Selenium   | 20                           | <10                              | <10                          | <10                          | <10                          | <10                              | <10                          | <10                          | <10                          | <10                              | <10                          | <10                          | 16                           | <10                              | <10                          | <10                          | <10                          | <10                              | <10                          | <10                          |  |
| Zinc   | 740                          | 130                              | 160                          | 110                          | 280                          | 210                              | 290                          | 290                          | 1300                         | 52                               | 29                           | 49                           | 990                          | 28                               | 86                           | 92                           | 850                          | 83                               | 29                           | 33                           |  |

**Notes:**

<sup>1</sup> Samples analysed using field x-ray diffraction methods

ft bgs = sample interval in feet below ground surface

mg/kg = miligram per kilogram

SU = Standard (pH) Units