



22-Mar-2011

Marla Miller
Malcolm Pirnie
211 N Florence Street
Suite 202
El Paso, TX 79901

Tel: (602) 797-4699
Fax: (915) 533-9045

Re: El Paso Smelter

Work Order: **1103223**

Dear Marla,

ALS Environmental received 1 sample on 08-Mar-2011 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 40.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink that reads "JayLynn F Thibault".

Electronically approved by: Glenda H. Ramos

JayLynn F Thibault
Project Manager



Certificate No: TX: T104704231-10-3

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

DOV#J UR X S#K VD /#R US##Sdu#k i#kh#DOV#Dde#rudwru|#J urxs#D #F dp eeh#Eurwkhuv#Dp wng#F rp sdq|

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RIGHT SOLUTIONS RIGHT PARTNER

Client: Malcolm Pirnie
Project: El Paso Smelter
Work Order: 1103223

Work Order Sample Summary

| <u>Lab Samp ID</u> | <u>Client Sample ID</u> | <u>Matrix</u> | <u>Tag Number</u> | <u>Collection Date</u> | <u>Date Received</u> | <u>Hold</u> |
|--------------------|-------------------------|---------------|-------------------|------------------------|----------------------|--------------------------|
| 1103223-01 | QA030711-2 | Water | | 3/7/2011 15:10 | 3/8/2011 09:00 | <input type="checkbox"/> |

ALS Environmental

Date: 22-Mar-11

Client: Malcolm Pirnie
Project: El Paso Smelter
Work Order: 1103223

Case Narrative

Batch 50882 Metals (sample 1103448-09) MS/MSD unrelated sample.

Batch R106498 Anions (sample 1103221-01) MS unrelated sample.

Batch R106646 Anions (sample 1103176-12) MS/MSD unrelated sample.

ALS Environmental

Date: 22-Mar-11

Client: Malcolm Pirnie
 Project: El Paso Smelter
 Sample ID: QA030711-2
 Collection Date: 3/7/2011 03:10 PM

Work Order: 1103223
 Lab ID: 1103223-01
 Matrix: WATER

| Analyses | Result | Qual | SDL | MLL | Units | Dilution Factor | Date Analyzed |
|--------------------------|----------|------|----------------|----------|-------------------------|-----------------|---------------------|
| DISSOLVED MERCURY | | | Method: SW7470 | | Prep: SW7470 / 3/11/11 | | Analyst: JCJ |
| Mercury | 0.000128 | J | 0.000042 | 0.000200 | mg/L | 1 | 3/11/2011 16:59 |
| MERCURY | | | Method: SW7470 | | Prep: SW7470 / 3/14/11 | | Analyst: JCJ |
| Mercury | 0.000120 | J | 0.000042 | 0.000200 | mg/L | 1 | 3/14/2011 20:36 |
| DISSOLVED METALS | | | Method: SW6020 | | Prep: SW3010A / 3/18/11 | | Analyst: ALR |
| Antimony | 0.00237 | J | 0.00050 | 0.00500 | mg/L | 1 | 3/22/2011 02:34 |
| Arsenic | 2.36 | | 0.045 | 0.250 | mg/L | 50 | 3/22/2011 16:10 |
| Barium | 0.0322 | | 0.00070 | 0.00500 | mg/L | 1 | 3/22/2011 02:34 |
| Cadmium | U | | 0.00060 | 0.00200 | mg/L | 1 | 3/22/2011 02:34 |
| Chromium | U | | 0.00060 | 0.00500 | mg/L | 1 | 3/22/2011 02:34 |
| Cobalt | 0.00104 | J | 0.00050 | 0.00500 | mg/L | 1 | 3/22/2011 02:34 |
| Copper | 0.000585 | J | 0.00050 | 0.00500 | mg/L | 1 | 3/22/2011 02:34 |
| Iron | 0.277 | | 0.036 | 0.200 | mg/L | 1 | 3/22/2011 02:34 |
| Lead | 0.000449 | J | 0.00040 | 0.00500 | mg/L | 1 | 3/22/2011 02:34 |
| Molybdenum | 0.263 | | 0.00060 | 0.00500 | mg/L | 1 | 3/22/2011 02:34 |
| Nickel | 0.0330 | | 0.0014 | 0.00500 | mg/L | 1 | 3/22/2011 02:34 |
| Selenium | 0.121 | | 0.0025 | 0.00500 | mg/L | 1 | 3/22/2011 02:34 |
| Thallium | U | | 0.00080 | 0.00200 | mg/L | 1 | 3/22/2011 02:34 |
| Zinc | 0.00683 | | 0.0025 | 0.00500 | mg/L | 1 | 3/22/2011 02:34 |
| METALS | | | Method: SW6020 | | Prep: SW3010A / 3/17/11 | | Analyst: ALR |
| Aluminum | 0.182 | | 0.0037 | 0.0100 | mg/L | 1 | 3/18/2011 19:44 |
| Antimony | 0.00190 | J | 0.00050 | 0.00500 | mg/L | 1 | 3/18/2011 19:44 |
| Arsenic | 2.42 | | 0.090 | 0.500 | mg/L | 100 | 3/21/2011 16:38 |
| Barium | 0.0358 | | 0.00070 | 0.00500 | mg/L | 1 | 3/18/2011 19:44 |
| Cadmium | U | | 0.00060 | 0.00200 | mg/L | 1 | 3/18/2011 19:44 |
| Calcium | 178 | | 0.050 | 0.500 | mg/L | 1 | 3/18/2011 19:44 |
| Chromium | 0.000660 | J | 0.00060 | 0.00500 | mg/L | 1 | 3/18/2011 19:44 |
| Cobalt | 0.000813 | J | 0.00050 | 0.00500 | mg/L | 1 | 3/18/2011 19:44 |
| Copper | 0.00160 | J | 0.00050 | 0.00500 | mg/L | 1 | 3/18/2011 19:44 |
| Iron | 0.632 | | 0.036 | 0.200 | mg/L | 1 | 3/18/2011 19:44 |
| Lead | 0.00146 | J | 0.00040 | 0.00500 | mg/L | 1 | 3/18/2011 19:44 |
| Magnesium | 50.2 | | 0.039 | 0.200 | mg/L | 1 | 3/18/2011 19:44 |
| Manganese | 0.333 | | 0.00080 | 0.00500 | mg/L | 1 | 3/18/2011 19:44 |
| Molybdenum | 0.282 | | 0.00060 | 0.00500 | mg/L | 1 | 3/18/2011 19:44 |
| Nickel | 0.0334 | | 0.0014 | 0.00500 | mg/L | 1 | 3/18/2011 19:44 |
| Potassium | 40.5 | | 0.10 | 0.200 | mg/L | 1 | 3/18/2011 19:44 |
| Selenium | 0.0954 | | 0.0025 | 0.00500 | mg/L | 1 | 3/18/2011 19:44 |
| Sodium | 762 | | 10 | 20.0 | mg/L | 100 | 3/21/2011 16:38 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 22-Mar-11

Client: Malcolm Pirnie
Project: El Paso Smelter
Sample ID: QA030711-2
Collection Date: 3/7/2011 03:10 PM

Work Order: 1103223
Lab ID: 1103223-01
Matrix: WATER

| Analyses | Result | Qual | SDL | MLL | Units | Dilution Factor | Date Analyzed |
|--|--------|------|---------------------|---------|-------|-----------------|-----------------|
| Thallium | | U | 0.00080 | 0.00200 | mg/L | 1 | 3/18/2011 19:44 |
| Zinc | 0.0101 | | 0.0025 | 0.00500 | mg/L | 1 | 3/18/2011 19:44 |
| ANIONS | | | Method: E300 | | | | Analyst: TDW |
| Chloride | 287 | | 10.0 | 25.0 | mg/L | 50 | 3/10/2011 13:48 |
| Fluoride | 2.56 | | 0.0500 | 0.100 | mg/L | 1 | 3/8/2011 17:45 |
| Nitrogen, Nitrate (As N) | 0.141 | | 0.0300 | 0.100 | mg/L | 1 | 3/8/2011 17:45 |
| Nitrogen, Nitrite (As N) | 0.449 | | 0.0300 | 0.100 | mg/L | 1 | 3/8/2011 17:45 |
| Sulfate | 1,090 | | 25.0 | 25.0 | mg/L | 50 | 3/10/2011 13:48 |
| Nitrate/Nitrite (as N) | 0.590 | | 0.0300 | 0.100 | mg/L | 1 | 3/8/2011 17:45 |
| Surr: Selenate (surr) | 107 | | | 85-115 | %REC | 1 | 3/8/2011 17:45 |
| Surr: Selenate (surr) | 108 | | | 85-115 | %REC | 50 | 3/10/2011 13:48 |
| ALKALINITY | | | Method: SM2320B | | | | Analyst: DM |
| Alkalinity, Total (As CaCO3) | 405 | | 2.0 | 5.00 | mg/L | 1 | 3/18/2011 13:00 |
| SULFIDE | | | Method: SM4500 S2-F | | | | Analyst: JKP |
| Sulfide | 1.00 | | 0.50 | 1.00 | mg/L | 1 | 3/14/2011 11:00 |
| TOTAL DISSOLVED SOLIDS | | | Method: M2540C | | | | Analyst: JKP |
| Total Dissolved Solids (Residue, Filterable) | 2,910 | | 5.0 | 10.0 | mg/L | 1 | 3/14/2011 11:00 |
| TOTAL ORGANIC CARBON | | | Method: SM5310C | | | | Analyst: JKP |
| Organic Carbon, Total | 3.48 | | 0.10 | 0.500 | mg/L | 1 | 3/12/2011 23:45 |
| TOTAL SUSPENDED SOLIDS | | | Method: M2540D | | | | Analyst: JKP |
| Suspended Solids (Residue, Non-Filterable) | 5.60 | | 2.00 | 2.00 | mg/L | 1 | 3/14/2011 11:00 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Work Order: 1103223
 Client: Malcolm Pirnie
 Project: El Paso Smelter

DATES REPORT

| Sample ID | Client Sample ID | Matrix | Collection Date | TCLP Date | Prep Date | Analysis Date |
|--|------------------|--------|---------------------|-----------|--------------------|--------------------|
| <u>Batch ID 50736</u> <u>Test Name: Dissolved Mercury</u> | | | | | | |
| 1103223-01B | QA030711-2 | Water | 3/7/2011 3:10:00 PM | | 3/11/2011 04:00 PM | 3/11/2011 04:59 PM |
| <u>Batch ID 50786</u> <u>Test Name: Mercury</u> | | | | | | |
| 1103223-01A | QA030711-2 | Water | 3/7/2011 3:10:00 PM | | 3/14/2011 04:00 PM | 3/14/2011 08:36 PM |
| <u>Batch ID 50882</u> <u>Test Name: Metals</u> | | | | | | |
| 1103223-01A | QA030711-2 | Water | 3/7/2011 3:10:00 PM | | 3/17/2011 03:00 PM | 3/18/2011 07:44 PM |
| | | | | | 3/17/2011 03:00 PM | 3/21/2011 04:38 PM |
| <u>Batch ID 50927</u> <u>Test Name: Dissolved Metals</u> | | | | | | |
| 1103223-01B | QA030711-2 | Water | 3/7/2011 3:10:00 PM | | 3/18/2011 09:00 PM | 3/22/2011 02:34 AM |
| | | | | | 3/18/2011 09:00 PM | 3/22/2011 04:10 PM |
| <u>Batch ID R106498</u> <u>Test Name: Anions</u> | | | | | | |
| 1103223-01C | QA030711-2 | Water | 3/7/2011 3:10:00 PM | | | 3/8/2011 05:45 PM |
| <u>Batch ID R106646</u> <u>Test Name: Anions</u> | | | | | | |
| 1103223-01C | QA030711-2 | Water | 3/7/2011 3:10:00 PM | | | 3/10/2011 01:48 PM |
| <u>Batch ID R106735</u> <u>Test Name: Total Organic Carbon</u> | | | | | | |
| 1103223-01D | QA030711-2 | Water | 3/7/2011 3:10:00 PM | | | 3/12/2011 11:45 PM |
| <u>Batch ID R106851</u> <u>Test Name: Total Suspended Solids</u> | | | | | | |
| 1103223-01C | QA030711-2 | Water | 3/7/2011 3:10:00 PM | | | 3/14/2011 11:00 AM |
| <u>Batch ID R106857</u> <u>Test Name: Total Dissolved Solids</u> | | | | | | |
| 1103223-01C | QA030711-2 | Water | 3/7/2011 3:10:00 PM | | | 3/14/2011 11:00 AM |

Work Order: 1103223
Client: Malcolm Pirnie
Project: El Paso Smelter

DATES REPORT

| Sample ID | Client Sample ID | Matrix | Collection Date | TCLP Date | Prep Date | Analysis Date |
|--|------------------|--------|---------------------|-----------|-----------|--------------------|
| Batch ID <u>R106866</u> Test Name: <u>Sulfide</u> | | | | | | |
| 1103223-01E | QA030711-2 | Water | 3/7/2011 3:10:00 PM | | | 3/14/2011 11:00 AM |
| Batch ID <u>R107026</u> Test Name: <u>Alkalinity</u> | | | | | | |
| 1103223-01C | QA030711-2 | Water | 3/7/2011 3:10:00 PM | | | 3/18/2011 01:00 PM |

WorkOrder: 1103223
InstrumentID: Balance1
Test Code: TDS_W 2540C
Test Number: M2540C
Test Name: Total Dissolved Solids

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

| Type | Analyte | CAS | DCS | MDL | Unadjusted MQL |
|------|--|-----|-----|-----|----------------|
| A | Total Dissolved Solids (Residue, Filterable) | TDS | 0 | 5.0 | 10 |

WorkOrder: 1103223
InstrumentID: Balance1
Test Code: TSS_W 2540D
Test Number: M2540D
Test Name: Total Suspended Solids

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

| Type | Analyte | CAS | DCS | MDL | Unadjusted MQL |
|------|--|-----|------|------|----------------|
| A | Suspended Solids (Residue, Non-Filterable) | TSS | 2.00 | 2.00 | 2.00 |

WorkOrder: 1103223
InstrumentID: ICPMS03
Test Code: ICP_DISS
Test Number: SW6020
Test Name: Dissolved Metals

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

| Type | Analyte | CAS | DCS | MDL | Unadjusted MQL |
|------|------------|-----------|---------|---------|----------------|
| A | Antimony | 7440-36-0 | 0.00059 | 0.00050 | 0.0050 |
| A | Arsenic | 7440-38-2 | 0.00078 | 0.00090 | 0.0050 |
| A | Barium | 7440-39-3 | 0.0011 | 0.00070 | 0.0050 |
| A | Cadmium | 7440-43-9 | 0.00098 | 0.00060 | 0.0020 |
| A | Chromium | 7440-47-3 | 0.0010 | 0.00060 | 0.0050 |
| A | Cobalt | 7440-48-4 | 0.00079 | 0.00050 | 0.0050 |
| A | Copper | 7440-50-8 | 0.00061 | 0.00050 | 0.0050 |
| A | Iron | 7439-89-6 | 0.042 | 0.036 | 0.20 |
| A | Lead | 7439-92-1 | 0.0011 | 0.00040 | 0.0050 |
| A | Molybdenum | 7439-98-7 | 0.0013 | 0.00060 | 0.0050 |
| A | Nickel | 7440-02-0 | 0.0012 | 0.0014 | 0.0050 |
| A | Selenium | 7782-49-2 | 0.00016 | 0.0025 | 0.0050 |
| A | Thallium | 7440-28-0 | 0.0010 | 0.00080 | 0.0020 |
| A | Zinc | 7440-66-6 | 0.0035 | 0.0025 | 0.0050 |

WorkOrder: 1103223
InstrumentID: ICPMS03
Test Code: ICP_TW
Test Number: SW6020
Test Name: Metals

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

| Type | Analyte | CAS | DCS | MDL | Unadjusted MQL |
|------|------------|-----------|---------|---------|----------------|
| A | Aluminum | 7429-90-5 | 0.0080 | 0.0037 | 0.010 |
| A | Antimony | 7440-36-0 | 0.00059 | 0.00050 | 0.0050 |
| A | Arsenic | 7440-38-2 | 0.00078 | 0.00090 | 0.0050 |
| A | Barium | 7440-39-3 | 0.0011 | 0.00070 | 0.0050 |
| A | Cadmium | 7440-43-9 | 0.00098 | 0.00060 | 0.0020 |
| A | Calcium | 7440-70-2 | 0.12 | 0.050 | 0.50 |
| A | Chromium | 7440-47-3 | 0.0010 | 0.00060 | 0.0050 |
| A | Cobalt | 7440-48-4 | 0.00079 | 0.00050 | 0.0050 |
| A | Copper | 7440-50-8 | 0.00061 | 0.00050 | 0.0050 |
| A | Iron | 7439-89-6 | 0.042 | 0.036 | 0.20 |
| A | Lead | 7439-92-1 | 0.0011 | 0.00040 | 0.0050 |
| A | Magnesium | 7439-95-4 | 0.11 | 0.039 | 0.20 |
| A | Manganese | 7439-96-5 | 0.0012 | 0.00080 | 0.0050 |
| A | Molybdenum | 7439-98-7 | 0.0013 | 0.00060 | 0.0050 |
| A | Nickel | 7440-02-0 | 0.0012 | 0.0014 | 0.0050 |
| A | Potassium | 7440-09-7 | 0.12 | 0.10 | 0.20 |
| A | Selenium | 7782-49-2 | 0.00016 | 0.0025 | 0.0050 |
| A | Sodium | 7440-23-5 | 0.14 | 0.10 | 0.20 |
| A | Thallium | 7440-28-0 | 0.0010 | 0.00080 | 0.0020 |
| A | Zinc | 7440-66-6 | 0.0035 | 0.0025 | 0.0050 |

WorkOrder: 1103223
InstrumentID: ICS2100
Test Code: 300_W
Test Number: E300
Test Name: Anions

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous Units: mg/L

| Type | Analyte | CAS | DCS | MDL | Unadjusted MQL |
|------|--------------------------|------------|------|--------|----------------|
| A | Fluoride | 16984-48-8 | 3.78 | 0.0500 | 0.100 |
| A | Nitrogen, Nitrate (As N) | 7631-99-4 | 3.92 | 0.0300 | 0.100 |
| A | Nitrogen, Nitrite (As N) | 7632-00-0 | 3.92 | 0.0300 | 0.100 |
| M | Nitrate/Nitrite (as N) | 7727-37-9 | 7.84 | 0.0300 | 0.100 |
| S | Surr: Selenate (surr) | 10102-23-5 | 0 | 0.100 | 0.100 |

WorkOrder: 1103223
InstrumentID: ICS3000
Test Code: 300_W
Test Number: E300
Test Name: Anions

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous Units: mg/L

| Type | Analyte | CAS | DCS | MDL | Unadjusted MQL |
|------|-----------------------|------------|-------|-------|----------------|
| A | Chloride | 16887-00-6 | 0.642 | 0.200 | 0.500 |
| A | Sulfate | 14808-79-8 | 0.129 | 0.500 | 0.500 |
| S | Surr: Selenate (surr) | 10102-23-5 | 0 | 0.100 | 0.100 |

WorkOrder: 1103223
InstrumentID: Mercury
Test Code: HG_DISS
Test Number: SW7470
Test Name: Dissolved Mercury

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous Units: mg/L

| Type | Analyte | CAS | DCS | MDL | Unadjusted MQL |
|------|---------|-----------|----------|----------|----------------|
| A | Mercury | 7439-97-6 | 0.000096 | 0.000042 | 0.00020 |

WorkOrder: 1103223
InstrumentID: Mercury
Test Code: HG_W
Test Number: SW7470
Test Name: Mercury

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

| Type | Analyte | CAS | DCS | MDL | Unadjusted MQL |
|------|---------|-----------|----------|----------|----------------|
| A | Mercury | 7439-97-6 | 0.000096 | 0.000042 | 0.00020 |

WorkOrder: 1103223
InstrumentID: TOC_W
Test Code: TOC_W 5310C
Test Number: SM5310C
Test Name: Total Organic Carbon

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous Units: mg/L

| Type | Analyte | CAS | DCS | MDL | Unadjusted MQL |
|------|-----------------------|-----------|------|------|----------------|
| A | Organic Carbon, Total | 7440-44-0 | 0.50 | 0.10 | 0.50 |

WorkOrder: 1103223
InstrumentID: WetChem
Test Code: ALK_W 2320B
Test Number: SM2320B
Test Name: Alkalinity

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous Units: mg/L

| Type | Analyte | CAS | DCS | MDL | Unadjusted MQL |
|------|------------------------------|-----|-----|-----|----------------|
| A | Alkalinity, Total (As CaCO3) | ALK | 0 | 2.0 | 5.0 |

WorkOrder: 1103223
InstrumentID: WetChem
Test Code: SULFD_4500S F
Test Number: SM4500 S2-F
Test Name: Sulfide

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

| Type | Analyte | CAS | DCS | MDL | Unadjusted MQL |
|------|---------|------------|-----|------|----------------|
| A | Sulfide | 18496-25-8 | 1.6 | 0.50 | 1.0 |

ALS Environmental

Date: 22-Mar-11

Client: Malcolm Pirnie
 Work Order: 1103223
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **50736** Instrument ID **Mercury** Method: **SW7470** (Dissolve)

| | | | | | | | | | | |
|-------------|---------------------------------------|---------|---------|-----------------------|--|---------------|---------------|------|-----------|------|
| MBLK | Sample ID: GBLKW2-031111-50736 | | | Units: mg/L | Analysis Date: 3/11/2011 04:46 PM | | | | | |
| Client ID: | Run ID: MERCURY_110311A | | | SeqNo: 2309539 | Prep Date: 3/11/2011 | | DF: 1 | | | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | U | 0.00020 | | | | | | | | |

| | | | | | | | | | | |
|------------|---------------------------------------|---------|---------|-----------------------|--|---------------|---------------|------|-----------|------|
| LCS | Sample ID: GLCSW2-031111-50736 | | | Units: mg/L | Analysis Date: 3/11/2011 04:48 PM | | | | | |
| Client ID: | Run ID: MERCURY_110311A | | | SeqNo: 2309540 | Prep Date: 3/11/2011 | | DF: 1 | | | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | 0.00455 | 0.00020 | 0.005 | 0 | 91 | 80-120 | 0 | | | |

| | | | | | | | | | | |
|------------|---------------------------------|---------|---------|-----------------------|--|---------------|---------------|------|-----------|------|
| MS | Sample ID: 1103221-01BMS | | | Units: mg/L | Analysis Date: 3/11/2011 04:54 PM | | | | | |
| Client ID: | Run ID: MERCURY_110311A | | | SeqNo: 2309543 | Prep Date: 3/11/2011 | | DF: 1 | | | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | 0.00455 | 0.00020 | 0.005 | 0.000059 | 89.8 | 80-120 | 0 | | | |

| | | | | | | | | | | |
|------------|----------------------------------|---------|---------|-----------------------|--|---------------|---------------|------|-----------|------|
| MSD | Sample ID: 1103221-01BMSD | | | Units: mg/L | Analysis Date: 3/11/2011 04:56 PM | | | | | |
| Client ID: | Run ID: MERCURY_110311A | | | SeqNo: 2309544 | Prep Date: 3/11/2011 | | DF: 1 | | | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | 0.00467 | 0.00020 | 0.005 | 0.000059 | 92.2 | 80-120 | 0.00455 | 2.6 | 20 | |

| | | | | | | | | | | |
|------------|----------------------------------|---------|---------|-----------------------|--|---------------|---------------|------|-----------|------|
| DUP | Sample ID: 1103221-01BDUP | | | Units: mg/L | Analysis Date: 3/11/2011 04:52 PM | | | | | |
| Client ID: | Run ID: MERCURY_110311A | | | SeqNo: 2309542 | Prep Date: 3/11/2011 | | DF: 1 | | | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | 0.00006 | 0.00020 | 0 | 0 | 0 | -0 0 | 0.000059 | 0 | 20 | J |

The following samples were analyzed in this batch: 1103223-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
 Work Order: 1103223
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **50786** Instrument ID **Mercury** Method: **SW7470**

| MBLK | Sample ID: GBLKW3-031411-50786 | | | | | Units: mg/L | Analysis Date: 3/14/2011 07:41 PM | | | |
|------------|---------------------------------------|--------------------------------|---------|---------------|-----------------------|-----------------------------|--|------|-----------|------|
| Client ID: | | Run ID: MERCURY_110314A | | | SeqNo: 2311934 | Prep Date: 3/14/2011 | DF: 1 | | | |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | U | 0.00020 | | | | | | | | |

| LCS | Sample ID: GLCSW3-031411-50786 | | | | | Units: mg/L | Analysis Date: 3/14/2011 07:43 PM | | | |
|------------|---------------------------------------|--------------------------------|---------|---------------|-----------------------|-----------------------------|--|------|-----------|------|
| Client ID: | | Run ID: MERCURY_110314A | | | SeqNo: 2311935 | Prep Date: 3/14/2011 | DF: 1 | | | |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | 0.00517 | 0.00020 | 0.005 | 0 | 103 | 85-115 | 0 | | | |

| MS | Sample ID: 1103355-02BMS | | | | | Units: mg/L | Analysis Date: 3/14/2011 07:49 PM | | | |
|------------|---------------------------------|--------------------------------|---------|---------------|-----------------------|-----------------------------|--|------|-----------|------|
| Client ID: | | Run ID: MERCURY_110314A | | | SeqNo: 2311938 | Prep Date: 3/14/2011 | DF: 1 | | | |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | 0.00516 | 0.00020 | 0.005 | 0.000009 | 103 | 85-115 | 0 | | | |

| MSD | Sample ID: 1103355-02BMSD | | | | | Units: mg/L | Analysis Date: 3/14/2011 07:51 PM | | | |
|------------|----------------------------------|--------------------------------|---------|---------------|-----------------------|-----------------------------|--|-------|-----------|------|
| Client ID: | | Run ID: MERCURY_110314A | | | SeqNo: 2311939 | Prep Date: 3/14/2011 | DF: 1 | | | |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | 0.00515 | 0.00020 | 0.005 | 0.000009 | 103 | 85-115 | 0.00516 | 0.194 | 20 | |

| DUP | Sample ID: 1103355-02BDUP | | | | | Units: mg/L | Analysis Date: 3/14/2011 07:47 PM | | | |
|------------|----------------------------------|--------------------------------|---------|---------------|-----------------------|-----------------------------|--|------|-----------|------|
| Client ID: | | Run ID: MERCURY_110314A | | | SeqNo: 2311937 | Prep Date: 3/14/2011 | DF: 1 | | | |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | U | 0.00020 | 0 | 0 | 0 | -0 0 | 0.000009 | 0 | 20 | |

The following samples were analyzed in this batch:

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
Work Order: 1103223
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **50882** Instrument ID **ICPMS03** Method: **SW6020**

MBLK Sample ID: **MBLKW1-031711-50882** Units: **mg/L** Analysis Date: **3/17/2011 02:46 PM**

Client ID: Run ID: **ICPMS03_110317A** SeqNo: **2316294** Prep Date: **3/17/2011** DF: **1**

| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|------------|----------|--------|---------|---------------|------|---------------|---------------|------|-----------|------|
| Aluminum | 0.006805 | 0.010 | | | | | | | | J |
| Antimony | U | 0.0050 | | | | | | | | |
| Arsenic | U | 0.0050 | | | | | | | | |
| Barium | U | 0.0050 | | | | | | | | |
| Cadmium | U | 0.0020 | | | | | | | | |
| Calcium | U | 0.50 | | | | | | | | |
| Chromium | U | 0.0050 | | | | | | | | |
| Cobalt | U | 0.0050 | | | | | | | | |
| Copper | U | 0.0050 | | | | | | | | |
| Iron | U | 0.20 | | | | | | | | |
| Lead | U | 0.0050 | | | | | | | | |
| Magnesium | U | 0.20 | | | | | | | | |
| Manganese | 0.002377 | 0.0050 | | | | | | | | J |
| Molybdenum | U | 0.0050 | | | | | | | | |
| Nickel | U | 0.0050 | | | | | | | | |
| Potassium | U | 0.20 | | | | | | | | |
| Selenium | U | 0.0050 | | | | | | | | |
| Sodium | U | 0.20 | | | | | | | | |
| Thallium | U | 0.0020 | | | | | | | | |
| Zinc | U | 0.0050 | | | | | | | | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
Work Order: 1103223
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **50882** Instrument ID **ICPMS03** Method: **SW6020**

| LCS | | Sample ID: MLCSW1-031711-50882 | | | Units: mg/L | | Analysis Date: 3/17/2011 04:04 PM | | | |
|------------|---------|---------------------------------------|---------|---------------|-----------------------|---------------|--|------|--------------|------|
| Client ID: | | Run ID: ICPMS03_110317A | | | SeqNo: 2316351 | | Prep Date: 3/17/2011 | | DF: 1 | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Aluminum | 0.09413 | 0.010 | 0.1 | 0 | 94.1 | 80-120 | 0 | | | |
| Antimony | 0.048 | 0.0050 | 0.05 | 0 | 96 | 80-120 | 0 | | | |
| Arsenic | 0.04914 | 0.0050 | 0.05 | 0 | 98.3 | 80-120 | 0 | | | |
| Barium | 0.04839 | 0.0050 | 0.05 | 0 | 96.8 | 80-120 | 0 | | | |
| Cadmium | 0.048 | 0.0020 | 0.05 | 0 | 96 | 80-120 | 0 | | | |
| Calcium | 4.801 | 0.50 | 5 | 0 | 96 | 80-120 | 0 | | | |
| Chromium | 0.04751 | 0.0050 | 0.05 | 0 | 95 | 80-120 | 0 | | | |
| Cobalt | 0.04796 | 0.0050 | 0.05 | 0 | 95.9 | 80-120 | 0 | | | |
| Copper | 0.04845 | 0.0050 | 0.05 | 0 | 96.9 | 80-120 | 0 | | | |
| Iron | 4.707 | 0.20 | 5 | 0 | 94.1 | 80-120 | 0 | | | |
| Lead | 0.04828 | 0.0050 | 0.05 | 0 | 96.6 | 80-120 | 0 | | | |
| Magnesium | 4.778 | 0.20 | 5 | 0 | 95.6 | 80-120 | 0 | | | |
| Manganese | 0.04875 | 0.0050 | 0.05 | 0 | 97.5 | 80-120 | 0 | | | |
| Molybdenum | 0.04561 | 0.0050 | 0.05 | 0 | 91.2 | 80-120 | 0 | | | |
| Nickel | 0.04811 | 0.0050 | 0.05 | 0 | 96.2 | 80-120 | 0 | | | |
| Potassium | 4.654 | 0.20 | 5 | 0 | 93.1 | 80-120 | 0 | | | |
| Selenium | 0.04927 | 0.0050 | 0.05 | 0 | 98.5 | 80-120 | 0 | | | |
| Sodium | 4.78 | 0.20 | 5 | 0 | 95.6 | 80-120 | 0 | | | |
| Thallium | 0.04981 | 0.0020 | 0.05 | 0 | 99.6 | 80-120 | 0 | | | |
| Zinc | 0.05237 | 0.0050 | 0.05 | 0 | 105 | 80-120 | 0 | | | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
Work Order: 1103223
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **50882** Instrument ID **ICPMS03** Method: **SW6020**

| MS | | Sample ID: 1103448-09BMS | | | | Units: mg/L | | Analysis Date: 3/17/2011 03:38 PM | | |
|------------|---------|---------------------------------|---------|---------------|-----------------------|--------------------|-----------------------------|--|--------------|------|
| Client ID: | | Run ID: ICPMS03_110317A | | | SeqNo: 2316304 | | Prep Date: 3/17/2011 | | DF: 1 | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Aluminum | 0.1183 | 0.010 | 0.1 | 0.0173 | 101 | 80-120 | 0 | | | |
| Antimony | 0.04852 | 0.0050 | 0.05 | 0.0005627 | 95.9 | 80-120 | 0 | | | |
| Arsenic | 0.04877 | 0.0050 | 0.05 | 0.0001134 | 97.3 | 80-120 | 0 | | | |
| Barium | 0.04989 | 0.0050 | 0.05 | 0.0009804 | 97.8 | 80-120 | 0 | | | |
| Cadmium | 0.04868 | 0.0020 | 0.05 | 0.00007066 | 97.2 | 80-120 | 0 | | | |
| Calcium | 5.495 | 0.50 | 5 | 0.5168 | 99.6 | 80-120 | 0 | | | |
| Chromium | 0.05118 | 0.0050 | 0.05 | 0.0003406 | 102 | 80-120 | 0 | | | |
| Cobalt | 0.04914 | 0.0050 | 0.05 | -5.261E-05 | 98.4 | 80-120 | 0 | | | |
| Copper | 0.05103 | 0.0050 | 0.05 | 0.001571 | 98.9 | 80-120 | 0 | | | |
| Iron | 4.762 | 0.20 | 5 | 0.01915 | 94.9 | 80-120 | 0 | | | |
| Lead | 0.05035 | 0.0050 | 0.05 | 0.001092 | 98.5 | 80-120 | 0 | | | |
| Magnesium | 5.109 | 0.20 | 5 | 0.1275 | 99.6 | 80-120 | 0 | | | |
| Manganese | 0.04958 | 0.0050 | 0.05 | 0.004259 | 90.6 | 80-120 | 0 | | | |
| Molybdenum | 0.04692 | 0.0050 | 0.05 | 0.0002797 | 93.3 | 80-120 | 0 | | | |
| Nickel | 0.05016 | 0.0050 | 0.05 | 0.001121 | 98.1 | 80-120 | 0 | | | |
| Potassium | 6.5 | 0.20 | 5 | 1.599 | 98 | 80-120 | 0 | | | |
| Selenium | 0.04945 | 0.0050 | 0.05 | 0.0001361 | 98.6 | 80-120 | 0 | | | |
| Sodium | 6.314 | 0.20 | 5 | 1.358 | 99.1 | 80-120 | 0 | | | |
| Thallium | 0.04974 | 0.0020 | 0.05 | 0.0004352 | 98.6 | 80-120 | 0 | | | |
| Zinc | 0.06356 | 0.0050 | 0.05 | 0.02535 | 76.4 | 80-120 | 0 | | | S |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
Work Order: 1103223
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **50882** Instrument ID **ICPMS03** Method: **SW6020**

| MSD | | Sample ID: 1103448-09BMSD | | | | Units: mg/L | | Analysis Date: 3/17/2011 03:43 PM | | |
|------------|---------|----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: ICPMS03_110317A | | | | SeqNo: 2316305 | | Prep Date: 3/17/2011 | | DF: 1 |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Aluminum | 0.1225 | 0.010 | 0.1 | 0.0173 | 105 | 80-120 | 0.1183 | 3.49 | 15 | |
| Antimony | 0.05004 | 0.0050 | 0.05 | 0.0005627 | 99 | 80-120 | 0.04852 | 3.08 | 15 | |
| Arsenic | 0.04983 | 0.0050 | 0.05 | 0.0001134 | 99.4 | 80-120 | 0.04877 | 2.15 | 15 | |
| Barium | 0.05166 | 0.0050 | 0.05 | 0.0009804 | 101 | 80-120 | 0.04989 | 3.49 | 15 | |
| Cadmium | 0.04909 | 0.0020 | 0.05 | 0.00007066 | 98 | 80-120 | 0.04868 | 0.839 | 15 | |
| Calcium | 5.621 | 0.50 | 5 | 0.5168 | 102 | 80-120 | 5.495 | 2.27 | 15 | |
| Chromium | 0.04957 | 0.0050 | 0.05 | 0.0003406 | 98.5 | 80-120 | 0.05118 | 3.2 | 15 | |
| Cobalt | 0.04963 | 0.0050 | 0.05 | -5.261E-05 | 99.4 | 80-120 | 0.04914 | 0.992 | 15 | |
| Copper | 0.05191 | 0.0050 | 0.05 | 0.001571 | 101 | 80-120 | 0.05103 | 1.71 | 15 | |
| Iron | 4.86 | 0.20 | 5 | 0.01915 | 96.8 | 80-120 | 4.762 | 2.04 | 15 | |
| Lead | 0.05033 | 0.0050 | 0.05 | 0.001092 | 98.5 | 80-120 | 0.05035 | 0.0397 | 15 | |
| Magnesium | 5.126 | 0.20 | 5 | 0.1275 | 100 | 80-120 | 5.109 | 0.332 | 15 | |
| Manganese | 0.0511 | 0.0050 | 0.05 | 0.004259 | 93.7 | 80-120 | 0.04958 | 3.02 | 15 | |
| Molybdenum | 0.04713 | 0.0050 | 0.05 | 0.0002797 | 93.7 | 80-120 | 0.04692 | 0.447 | 15 | |
| Nickel | 0.052 | 0.0050 | 0.05 | 0.001121 | 102 | 80-120 | 0.05016 | 3.6 | 15 | |
| Potassium | 6.514 | 0.20 | 5 | 1.599 | 98.3 | 80-120 | 6.5 | 0.215 | 15 | |
| Selenium | 0.05226 | 0.0050 | 0.05 | 0.0001361 | 104 | 80-120 | 0.04945 | 5.53 | 15 | |
| Sodium | 6.32 | 0.20 | 5 | 1.358 | 99.2 | 80-120 | 6.314 | 0.095 | 15 | |
| Thallium | 0.05009 | 0.0020 | 0.05 | 0.0004352 | 99.3 | 80-120 | 0.04974 | 0.701 | 15 | |
| Zinc | 0.06938 | 0.0050 | 0.05 | 0.02535 | 88.1 | 80-120 | 0.06356 | 8.76 | 15 | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
 Work Order: 1103223
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: 50882 Instrument ID ICPMS03 Method: SW6020

DUP Sample ID: 1103448-09BDUP Units: mg/L Analysis Date: 3/17/2011 03:28 PM

Client ID: Run ID: ICPMS03_110317A SeqNo: 2316302 Prep Date: 3/17/2011 DF: 1

| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|------------|-----------|--------|---------|---------------|------|---------------|---------------|------|-----------|------|
| Aluminum | 0.01961 | 0.010 | 0 | 0 | 0 | -0 0 | 0.0173 | 12.5 | 25 | |
| Antimony | 0.0005804 | 0.0050 | 0 | 0 | 0 | -0 0 | 0.0005627 | 0 | 25 | J |
| Arsenic | U | 0.0050 | 0 | 0 | 0 | -0 0 | 0.0001134 | 0 | 25 | |
| Barium | 0.0009481 | 0.0050 | 0 | 0 | 0 | -0 0 | 0.0009804 | 0 | 25 | J |
| Cadmium | U | 0.0020 | 0 | 0 | 0 | -0 0 | 0.00007066 | 0 | 25 | |
| Calcium | 0.591 | 0.50 | 0 | 0 | 0 | -0 0 | 0.5168 | 13.4 | 25 | |
| Chromium | U | 0.0050 | 0 | 0 | 0 | -0 0 | 0.0003406 | 0 | 25 | |
| Cobalt | U | 0.0050 | 0 | 0 | 0 | -0 0 | -5.261E-05 | 0 | 25 | |
| Copper | 0.001618 | 0.0050 | 0 | 0 | 0 | -0 0 | 0.001571 | 0 | 25 | J |
| Iron | U | 0.20 | 0 | 0 | 0 | -0 0 | 0.01915 | 0 | 25 | |
| Lead | 0.001128 | 0.0050 | 0 | 0 | 0 | -0 0 | 0.001092 | 0 | 25 | J |
| Magnesium | 0.1317 | 0.20 | 0 | 0 | 0 | -0 0 | 0.1275 | 0 | 25 | J |
| Manganese | 0.003013 | 0.0050 | 0 | 0 | 0 | -0 0 | 0.004259 | 0 | 25 | J |
| Molybdenum | U | 0.0050 | 0 | 0 | 0 | -0 0 | 0.0002797 | 0 | 25 | |
| Nickel | U | 0.0050 | 0 | 0 | 0 | -0 0 | 0.001121 | 0 | 25 | |
| Potassium | 1.635 | 0.20 | 0 | 0 | 0 | -0 0 | 1.599 | 2.23 | 25 | |
| Selenium | U | 0.0050 | 0 | 0 | 0 | -0 0 | 0.0001361 | 0 | 25 | |
| Sodium | 1.38 | 0.20 | 0 | 0 | 0 | -0 0 | 1.358 | 1.61 | 25 | |
| Thallium | U | 0.0020 | 0 | 0 | 0 | -0 0 | 0.0004352 | 0 | 25 | |
| Zinc | 0.02568 | 0.0050 | 0 | 0 | 0 | -0 0 | 0.02535 | 1.29 | 25 | |

The following samples were analyzed in this batch: | 1103223-01A |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
 Work Order: 1103223
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **50927** Instrument ID **ICPMS03** Method: **SW6020** (**Dissolve**)

MBLK Sample ID: **MBLKW3-031811-50927** Units: **mg/L** Analysis Date: **3/21/2011 11:26 PM**

Client ID: Run ID: **ICPMS03_110321A** SeqNo: **2319820** Prep Date: **3/18/2011** DF: **1**

| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|------------|---------|--------|---------|---------------|------|---------------|---------------|------|-----------|------|
| Antimony | U | 0.0050 | | | | | | | | |
| Arsenic | U | 0.0050 | | | | | | | | |
| Barium | U | 0.0050 | | | | | | | | |
| Cadmium | U | 0.0020 | | | | | | | | |
| Chromium | U | 0.0050 | | | | | | | | |
| Cobalt | U | 0.0050 | | | | | | | | |
| Copper | U | 0.0050 | | | | | | | | |
| Iron | U | 0.20 | | | | | | | | |
| Lead | U | 0.0050 | | | | | | | | |
| Molybdenum | U | 0.0050 | | | | | | | | |
| Nickel | U | 0.0050 | | | | | | | | |
| Selenium | U | 0.0050 | | | | | | | | |
| Thallium | U | 0.0020 | | | | | | | | |
| Zinc | 0.00297 | 0.0050 | | | | | | | | J |

LCS Sample ID: **MLCSW3-031811-50927** Units: **mg/L** Analysis Date: **3/21/2011 11:31 PM**

Client ID: Run ID: **ICPMS03_110321A** SeqNo: **2319821** Prep Date: **3/18/2011** DF: **1**

| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|------------|---------|--------|---------|---------------|------|---------------|---------------|------|-----------|------|
| Antimony | 0.05055 | 0.0050 | 0.05 | 0 | 101 | 80-120 | 0 | | | |
| Arsenic | 0.05233 | 0.0050 | 0.05 | 0 | 105 | 80-120 | 0 | | | |
| Barium | 0.05196 | 0.0050 | 0.05 | 0 | 104 | 80-120 | 0 | | | |
| Cadmium | 0.05236 | 0.0020 | 0.05 | 0 | 105 | 80-120 | 0 | | | |
| Chromium | 0.05089 | 0.0050 | 0.05 | 0 | 102 | 80-120 | 0 | | | |
| Cobalt | 0.05095 | 0.0050 | 0.05 | 0 | 102 | 80-120 | 0 | | | |
| Copper | 0.05063 | 0.0050 | 0.05 | 0 | 101 | 80-120 | 0 | | | |
| Iron | 4.967 | 0.20 | 5 | 0 | 99.3 | 80-120 | 0 | | | |
| Lead | 0.05028 | 0.0050 | 0.05 | 0 | 101 | 80-120 | 0 | | | |
| Molybdenum | 0.04883 | 0.0050 | 0.05 | 0 | 97.7 | 80-120 | 0 | | | |
| Nickel | 0.05203 | 0.0050 | 0.05 | 0 | 104 | 80-120 | 0 | | | |
| Selenium | 0.05104 | 0.0050 | 0.05 | 0 | 102 | 80-120 | 0 | | | |
| Thallium | 0.04978 | 0.0020 | 0.05 | 0 | 99.6 | 80-120 | 0 | | | |
| Zinc | 0.05386 | 0.0050 | 0.05 | 0 | 108 | 80-120 | 0 | | | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
 Work Order: 1103223
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: 50927 Instrument ID ICPMS03 Method: SW6020 (Dissolve)

MS Sample ID: 1103158-08FMS Units: mg/L Analysis Date: 3/21/2011 11:52 PM

Client ID: Run ID: ICPMS03_110321A SeqNo: 2319826 Prep Date: 3/18/2011 DF: 1

| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|------------|---------|--------|---------|---------------|------|---------------|---------------|------|-----------|------|
| Antimony | 0.04962 | 0.0050 | 0.05 | 0.0001582 | 98.9 | 75-125 | 0 | | | |
| Arsenic | 0.05406 | 0.0050 | 0.05 | 0.0004655 | 107 | 75-125 | 0 | | | |
| Barium | 0.08368 | 0.0050 | 0.05 | 0.02928 | 109 | 75-125 | 0 | | | |
| Cadmium | 0.05356 | 0.0020 | 0.05 | -0.0001418 | 107 | 75-125 | 0 | | | |
| Chromium | 0.05211 | 0.0050 | 0.05 | 0.000941 | 102 | 75-125 | 0 | | | |
| Cobalt | 0.05041 | 0.0050 | 0.05 | 0.0004065 | 100 | 75-125 | 0 | | | |
| Copper | 0.07352 | 0.0050 | 0.05 | 0.02499 | 97.1 | 75-125 | 0 | | | |
| Iron | 4.941 | 0.20 | 5 | -0.03432 | 99.5 | 75-125 | 0 | | | |
| Lead | 0.05255 | 0.0050 | 0.05 | 0.0001914 | 105 | 75-125 | 0 | | | |
| Molybdenum | 0.05378 | 0.0050 | 0.05 | 0.003973 | 99.6 | 75-125 | 0 | | | |
| Nickel | 0.06942 | 0.0050 | 0.05 | 0.01963 | 99.6 | 75-125 | 0 | | | |
| Selenium | 0.0547 | 0.0050 | 0.05 | 0.0008977 | 108 | 75-125 | 0 | | | |
| Thallium | 0.05145 | 0.0020 | 0.05 | 0.00009279 | 103 | 75-125 | 0 | | | |
| Zinc | 0.05415 | 0.0050 | 0.05 | 0.003462 | 101 | 75-125 | 0 | | | |

MSD Sample ID: 1103158-08FMSD Units: mg/L Analysis Date: 3/21/2011 11:57 PM

Client ID: Run ID: ICPMS03_110321A SeqNo: 2319827 Prep Date: 3/18/2011 DF: 1

| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|------------|---------|--------|---------|---------------|------|---------------|---------------|-------|-----------|------|
| Antimony | 0.05183 | 0.0050 | 0.05 | 0.0001582 | 103 | 75-125 | 0.04962 | 4.36 | 25 | |
| Arsenic | 0.05519 | 0.0050 | 0.05 | 0.0004655 | 109 | 75-125 | 0.05406 | 2.07 | 25 | |
| Barium | 0.08216 | 0.0050 | 0.05 | 0.02928 | 106 | 75-125 | 0.08368 | 1.83 | 25 | |
| Cadmium | 0.05285 | 0.0020 | 0.05 | -0.0001418 | 106 | 75-125 | 0.05356 | 1.33 | 25 | |
| Chromium | 0.05226 | 0.0050 | 0.05 | 0.000941 | 103 | 75-125 | 0.05211 | 0.287 | 25 | |
| Cobalt | 0.05153 | 0.0050 | 0.05 | 0.0004065 | 102 | 75-125 | 0.05041 | 2.2 | 25 | |
| Copper | 0.07599 | 0.0050 | 0.05 | 0.02499 | 102 | 75-125 | 0.07352 | 3.3 | 25 | |
| Iron | 5.074 | 0.20 | 5 | -0.03432 | 102 | 75-125 | 4.941 | 2.66 | 25 | |
| Lead | 0.05223 | 0.0050 | 0.05 | 0.0001914 | 104 | 75-125 | 0.05255 | 0.611 | 25 | |
| Molybdenum | 0.05345 | 0.0050 | 0.05 | 0.003973 | 99 | 75-125 | 0.05378 | 0.615 | 25 | |
| Nickel | 0.07111 | 0.0050 | 0.05 | 0.01963 | 103 | 75-125 | 0.06942 | 2.41 | 25 | |
| Selenium | 0.05545 | 0.0050 | 0.05 | 0.0008977 | 109 | 75-125 | 0.0547 | 1.36 | 25 | |
| Thallium | 0.0523 | 0.0020 | 0.05 | 0.00009279 | 104 | 75-125 | 0.05145 | 1.64 | 25 | |
| Zinc | 0.05703 | 0.0050 | 0.05 | 0.003462 | 107 | 75-125 | 0.05415 | 5.18 | 25 | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
Work Order: 1103223
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **50927** Instrument ID **ICPMS03** Method: **SW6020** **(Dissolve)**

DUP Sample ID: **1103158-08FDUP** Units: **mg/L** Analysis Date: **3/21/2011 11:41 PM**

Client ID: Run ID: **ICPMS03_110321A** SeqNo: **2319824** Prep Date: **3/18/2011** DF: **1**

| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|------------|----------|--------|---------|---------------|------|---------------|---------------|------|-----------|------|
| Antimony | U | 0.0050 | 0 | 0 | 0 | -0 0 | 0.0001582 | 0 | 25 | |
| Arsenic | U | 0.0050 | 0 | 0 | 0 | -0 0 | 0.0004655 | 0 | 25 | |
| Barium | 0.02776 | 0.0050 | 0 | 0 | 0 | -0 0 | 0.02928 | 5.33 | 25 | |
| Cadmium | U | 0.0020 | 0 | 0 | 0 | -0 0 | -0.0001418 | 0 | 25 | |
| Chromium | U | 0.0050 | 0 | 0 | 0 | -0 0 | 0.000941 | 0 | 25 | |
| Cobalt | U | 0.0050 | 0 | 0 | 0 | -0 0 | 0.0004065 | 0 | 25 | |
| Copper | 0.02411 | 0.0050 | 0 | 0 | 0 | -0 0 | 0.02499 | 3.58 | 25 | |
| Iron | U | 0.20 | 0 | 0 | 0 | -0 0 | -0.03432 | 0 | 25 | |
| Lead | U | 0.0050 | 0 | 0 | 0 | -0 0 | 0.0001914 | 0 | 25 | |
| Molybdenum | 0.003777 | 0.0050 | 0 | 0 | 0 | -0 0 | 0.003973 | 0 | 25 | J |
| Nickel | 0.0186 | 0.0050 | 0 | 0 | 0 | -0 0 | 0.01963 | 5.39 | 25 | |
| Selenium | U | 0.0050 | 0 | 0 | 0 | -0 0 | 0.0008977 | 0 | 25 | |
| Thallium | U | 0.0020 | 0 | 0 | 0 | -0 0 | 0.00009279 | 0 | 25 | |
| Zinc | U | 0.0050 | 0 | 0 | 0 | -0 0 | 0.003462 | 0 | 25 | |

The following samples were analyzed in this batch:

1103223-01B

Client: Malcolm Pirnie
 Work Order: 1103223
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R106498** Instrument ID **ICS2100** Method: **E300**

MBLK Sample ID: **WBLKW1-030711-R106498** Units: **mg/L** Analysis Date: **3/8/2011 11:14 AM**

Client ID: Run ID: **ICS2100_110308A** SeqNo: **2305137** Prep Date: DF: **1**

| Analyte | Result | MLQ | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|------------------------------|--------------|-------------|----------|---------------|------------|---------------|---------------|------|-----------|------|
| Fluoride | U | 0.10 | | | | | | | | |
| Nitrogen, Nitrate (As N) | U | 0.10 | | | | | | | | |
| Nitrogen, Nitrite (As N) | U | 0.10 | | | | | | | | |
| Nitrate/Nitrite (as N) | U | 0.10 | | | | | | | | |
| <i>Surr: Selenate (surr)</i> | <i>5.041</i> | <i>0.10</i> | <i>5</i> | <i>0</i> | <i>101</i> | <i>85-115</i> | <i>0</i> | | | |

LCS Sample ID: **WLCSW1-030711-R106498** Units: **mg/L** Analysis Date: **3/8/2011 11:29 AM**

Client ID: Run ID: **ICS2100_110308A** SeqNo: **2305138** Prep Date: DF: **1**

| Analyte | Result | MLQ | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|------------------------------|--------------|-------------|----------|---------------|-------------|---------------|---------------|------|-----------|------|
| Fluoride | 3.89 | 0.10 | 4 | 0 | 97.2 | 90-110 | 0 | | | |
| Nitrogen, Nitrate (As N) | 3.959 | 0.10 | 4 | 0 | 99 | 90-110 | 0 | | | |
| Nitrogen, Nitrite (As N) | 4.363 | 0.10 | 4 | 0 | 109 | 90-110 | 0 | | | |
| Nitrate/Nitrite (as N) | 8.322 | 0.10 | 8 | 0 | 104 | 90-110 | 0 | | | |
| <i>Surr: Selenate (surr)</i> | <i>4.921</i> | <i>0.10</i> | <i>5</i> | <i>0</i> | <i>98.4</i> | <i>85-115</i> | <i>0</i> | | | |

LCSD Sample ID: **WLCSDW1-030711-R106498** Units: **mg/L** Analysis Date: **3/8/2011 11:43 AM**

Client ID: Run ID: **ICS2100_110308A** SeqNo: **2305139** Prep Date: DF: **1**

| Analyte | Result | MLQ | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|------------------------------|--------------|-------------|----------|---------------|-------------|---------------|---------------|---------------|-----------|------|
| Fluoride | 3.903 | 0.10 | 4 | 0 | 97.6 | 90-110 | 3.89 | 0.334 | 20 | |
| Nitrogen, Nitrate (As N) | 3.96 | 0.10 | 4 | 0 | 99 | 90-110 | 3.959 | 0.0253 | 20 | |
| Nitrogen, Nitrite (As N) | 4.358 | 0.10 | 4 | 0 | 109 | 90-110 | 4.363 | 0.115 | 20 | |
| Nitrate/Nitrite (as N) | 8.318 | 0.10 | 8 | 0 | 104 | 90-110 | 8.322 | 0.0481 | 20 | |
| <i>Surr: Selenate (surr)</i> | <i>4.924</i> | <i>0.10</i> | <i>5</i> | <i>0</i> | <i>98.5</i> | <i>85-115</i> | <i>4.921</i> | <i>0.0609</i> | <i>20</i> | |

MS Sample ID: **1103002-01EMS** Units: **mg/L** Analysis Date: **3/8/2011 12:41 PM**

Client ID: Run ID: **ICS2100_110308A** SeqNo: **2305143** Prep Date: DF: **10**

| Analyte | Result | MLQ | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|------------------------------|--------------|------------|-----------|---------------|-------------|---------------|---------------|------|-----------|------|
| Fluoride | 19.65 | 1.0 | 20 | 1.626 | 90.1 | 80-120 | 0 | | | |
| Nitrogen, Nitrate (As N) | 21.41 | 1.0 | 20 | 3.329 | 90.4 | 80-120 | 0 | | | H |
| Nitrogen, Nitrite (As N) | 20.82 | 1.0 | 20 | 0 | 104 | 80-120 | 0 | | | H |
| Nitrate/Nitrite (as N) | 42.23 | 1.0 | 40 | 3.329 | 97.2 | 80-120 | 0 | | | H |
| <i>Surr: Selenate (surr)</i> | <i>47.86</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>95.7</i> | <i>85-115</i> | <i>0</i> | | | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
 Work Order: 1103223
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: R106498 Instrument ID ICS2100 Method: E300

| MS | | Sample ID: 1103221-01CMS | | | Units: mg/L | | | Analysis Date: 3/8/2011 05:16 PM | | |
|--------------------------|--------|--------------------------|---------|---------------|----------------|---------------|---------------|----------------------------------|-----------|------|
| Client ID: | | Run ID: ICS2100_110308A | | | SeqNo: 2305188 | | Prep Date: | | DF: 1 | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Fluoride | 4.563 | 0.10 | 2 | 2.442 | 106 | 80-120 | 0 | | | |
| Nitrogen, Nitrate (As N) | 12.05 | 0.10 | 2 | 9.838 | 110 | 80-120 | 0 | | | O |
| Nitrogen, Nitrite (As N) | 2.5 | 0.10 | 2 | 0 | 125 | 80-120 | 0 | | | S |
| Nitrate/Nitrite (as N) | 14.55 | 0.10 | 4 | 9.838 | 118 | 80-120 | 0 | | | |
| Surr: Selenate (surr) | 4.604 | 0.10 | 5 | 0 | 92.1 | 85-115 | 0 | | | |

| MSD | | Sample ID: 1103002-01EMSD | | | Units: mg/L | | | Analysis Date: 3/8/2011 12:56 PM | | |
|--------------------------|--------|---------------------------|---------|---------------|----------------|---------------|---------------|----------------------------------|-----------|------|
| Client ID: | | Run ID: ICS2100_110308A | | | SeqNo: 2305144 | | Prep Date: | | DF: 10 | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Fluoride | 19.58 | 1.0 | 20 | 1.626 | 89.8 | 80-120 | 19.65 | 0.372 | 20 | |
| Nitrogen, Nitrate (As N) | 21.17 | 1.0 | 20 | 3.329 | 89.2 | 80-120 | 21.41 | 1.1 | 20 | H |
| Nitrogen, Nitrite (As N) | 20.68 | 1.0 | 20 | 0 | 103 | 80-120 | 20.82 | 0.67 | 20 | H |
| Nitrate/Nitrite (as N) | 41.85 | 1.0 | 40 | 3.329 | 96.3 | 80-120 | 42.23 | 0.89 | 20 | H |
| Surr: Selenate (surr) | 47.72 | 1.0 | 50 | 0 | 95.4 | 85-115 | 47.86 | 0.293 | 20 | |

| MSD | | Sample ID: 1103221-01CMSD | | | Units: mg/L | | | Analysis Date: 3/8/2011 05:30 PM | | |
|--------------------------|--------|---------------------------|---------|---------------|----------------|---------------|---------------|----------------------------------|-----------|------|
| Client ID: | | Run ID: ICS2100_110308A | | | SeqNo: 2305190 | | Prep Date: | | DF: 1 | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Fluoride | 4.397 | 0.10 | 2 | 2.442 | 97.8 | 80-120 | 4.563 | 3.71 | 20 | |
| Nitrogen, Nitrate (As N) | 11.87 | 0.10 | 2 | 9.838 | 102 | 80-120 | 12.05 | 1.47 | 20 | O |
| Nitrogen, Nitrite (As N) | 2.249 | 0.10 | 2 | 0 | 112 | 80-120 | 2.5 | 10.6 | 20 | |
| Nitrate/Nitrite (as N) | 14.12 | 0.10 | 4 | 9.838 | 107 | 80-120 | 14.55 | 2.98 | 20 | |
| Surr: Selenate (surr) | 4.718 | 0.10 | 5 | 0 | 94.4 | 85-115 | 4.604 | 2.45 | 20 | |

The following samples were analyzed in this batch: 1103223-01C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
 Work Order: 1103223
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R106646** Instrument ID **ICS3000** Method: **E300**

| MBLK | | Sample ID: WBLKW1-031011-R106646 | | | Units: mg/L | | | Analysis Date: 3/10/2011 11:42 AM | | |
|------------------------------|--------------|---|----------|---------------|-----------------------|---------------|---------------|--|--------------|------|
| Client ID: | | Run ID: ICS3000_110310A | | | SeqNo: 2308361 | | Prep Date: | | DF: 1 | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chloride | U | 0.50 | | | | | | | | |
| Sulfate | U | 0.50 | | | | | | | | |
| <i>Surr: Selenate (surr)</i> | <i>5.187</i> | <i>0.10</i> | <i>5</i> | <i>0</i> | <i>104</i> | <i>85-115</i> | <i>0</i> | | | |

| LCS | | Sample ID: WLCSW1-031011-R106646 | | | Units: mg/L | | | Analysis Date: 3/10/2011 12:03 PM | | |
|------------------------------|-------------|---|----------|---------------|-----------------------|---------------|---------------|--|--------------|------|
| Client ID: | | Run ID: ICS3000_110310A | | | SeqNo: 2308362 | | Prep Date: | | DF: 1 | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chloride | 21.67 | 0.50 | 20 | 0 | 108 | 90-110 | 0 | | | |
| Sulfate | 19.89 | 0.50 | 20 | 0 | 99.5 | 90-110 | 0 | | | |
| <i>Surr: Selenate (surr)</i> | <i>5.25</i> | <i>0.10</i> | <i>5</i> | <i>0</i> | <i>105</i> | <i>85-115</i> | <i>0</i> | | | |

| LCSD | | Sample ID: WLCSDW1-031011-R106646 | | | Units: mg/L | | | Analysis Date: 3/10/2011 12:24 PM | | |
|------------------------------|--------------|--|----------|---------------|-----------------------|---------------|---------------|--|--------------|------|
| Client ID: | | Run ID: ICS3000_110310A | | | SeqNo: 2308364 | | Prep Date: | | DF: 1 | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chloride | 19.68 | 0.50 | 20 | 0 | 98.4 | 90-110 | 21.67 | 9.65 | 20 | |
| Sulfate | 19.22 | 0.50 | 20 | 0 | 96.1 | 90-110 | 19.89 | 3.44 | 20 | |
| <i>Surr: Selenate (surr)</i> | <i>5.201</i> | <i>0.10</i> | <i>5</i> | <i>0</i> | <i>104</i> | <i>85-115</i> | <i>5.25</i> | <i>0.938</i> | <i>20</i> | |

| MSD | | Sample ID: 1103176-12AMS | | | Units: mg/L | | | Analysis Date: 3/10/2011 04:16 PM | | |
|------------------------------|-------------|---------------------------------|-----------|---------------|-----------------------|---------------|---------------|--|---------------|------|
| Client ID: | | Run ID: ICS3000_110310A | | | SeqNo: 2308379 | | Prep Date: | | DF: 10 | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chloride | 1807 | 5.0 | 100 | 1734 | 73 | 80-120 | 0 | | | SEO |
| Sulfate | 15980 | 5.0 | 100 | 0 | 16000 | 80-120 | 0 | | | SE |
| <i>Surr: Selenate (surr)</i> | <i>50.5</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>101</i> | <i>85-115</i> | <i>0</i> | | | |

| MSD | | Sample ID: 1103176-12AMSD | | | Units: mg/L | | | Analysis Date: 3/10/2011 04:37 PM | | |
|------------------------------|--------------|----------------------------------|-----------|---------------|-----------------------|---------------|---------------|--|---------------|------|
| Client ID: | | Run ID: ICS3000_110310A | | | SeqNo: 2308380 | | Prep Date: | | DF: 10 | |
| Analyte | Result | ML | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chloride | 1804 | 5.0 | 100 | 1734 | 70.8 | 80-120 | 0 | | | SEO |
| Sulfate | 15960 | 5.0 | 100 | 0 | 16000 | 80-120 | 0 | | | SE |
| <i>Surr: Selenate (surr)</i> | <i>50.52</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>101</i> | <i>85-115</i> | <i>0</i> | | | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
Work Order: 1103223
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R106646** Instrument ID **ICS3000** Method: **E300**

| MSD | | Sample ID: 1103162-01CMS | | | Units: mg/L | | Analysis Date: 3/10/2011 09:53 PM | | | |
|------------------------------|--------------|---------------------------------|-----------|---------------|-----------------------|---------------|--|------|---------------|------|
| Client ID: | | Run ID: ICS3000_110310A | | | SeqNo: 2308395 | | Prep Date: | | DF: 10 | |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chloride | 692.5 | 5.0 | 100 | 606.2 | 86.3 | 80-120 | 0 | | | O |
| Sulfate | 430.9 | 5.0 | 100 | 333.5 | 97.4 | 80-120 | 0 | | | |
| <i>Surr: Selenate (surr)</i> | <i>52.42</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>105</i> | <i>85-115</i> | <i>0</i> | | | |

| MSD | | Sample ID: 1103162-01CMSD | | | Units: mg/L | | Analysis Date: 3/10/2011 10:15 PM | | | |
|------------------------------|--------------|----------------------------------|-----------|---------------|-----------------------|---------------|--|------|---------------|------|
| Client ID: | | Run ID: ICS3000_110310A | | | SeqNo: 2308396 | | Prep Date: | | DF: 10 | |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chloride | 694.1 | 5.0 | 100 | 606.2 | 87.9 | 80-120 | 0 | | | O |
| Sulfate | 429.6 | 5.0 | 100 | 333.5 | 96.1 | 80-120 | 0 | | | |
| <i>Surr: Selenate (surr)</i> | <i>52.38</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>105</i> | <i>85-115</i> | <i>0</i> | | | |

The following samples were analyzed in this batch: 1103223-01C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
 Work Order: 1103223
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: R106735 Instrument ID TOC_W Method: SM5310C

| MBLK | | Sample ID: WBLKW1-031211-R106735 | | | | Units: mg/L | | Analysis Date: 3/12/2011 02:37 PM | | |
|-----------------------|--------|----------------------------------|---------|---------------|------|----------------|---------------|-----------------------------------|-----------|-------|
| Client ID: | | Run ID: TOC_W_110312B | | | | SeqNo: 2310080 | | Prep Date: | | DF: 1 |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Organic Carbon, Total | 0.284 | 0.50 | | | | | | | | J |

| LCS | | Sample ID: WLCSW1-031211-R106735 | | | | Units: mg/L | | Analysis Date: 3/12/2011 03:06 PM | | |
|-----------------------|--------|----------------------------------|---------|---------------|------|----------------|---------------|-----------------------------------|-----------|-------|
| Client ID: | | Run ID: TOC_W_110312B | | | | SeqNo: 2310081 | | Prep Date: | | DF: 1 |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Organic Carbon, Total | 9.074 | 0.50 | 10 | 0 | 90.7 | 80-120 | 0 | | | |

| LCSD | | Sample ID: WLCSDW1-03121-R106735 | | | | Units: mg/L | | Analysis Date: 3/12/2011 03:35 PM | | |
|-----------------------|--------|----------------------------------|---------|---------------|------|----------------|---------------|-----------------------------------|-----------|-------|
| Client ID: | | Run ID: TOC_W_110312B | | | | SeqNo: 2310082 | | Prep Date: | | DF: 1 |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Organic Carbon, Total | 9.168 | 0.50 | 10 | 0 | 91.7 | 80-120 | 9.074 | 1.03 | 20 | |

| MS | | Sample ID: 1103334-01AZMS | | | | Units: mg/L | | Analysis Date: 3/12/2011 06:28 PM | | |
|-----------------------|--------|---------------------------|---------|---------------|------|----------------|---------------|-----------------------------------|-----------|-------|
| Client ID: | | Run ID: TOC_W_110312B | | | | SeqNo: 2310088 | | Prep Date: | | DF: 1 |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Organic Carbon, Total | 26.99 | 0.50 | 10 | 18.1 | 88.8 | 80-120 | 0 | | | E |

| MS | | Sample ID: 1103192-01DMS | | | | Units: mg/L | | Analysis Date: 3/12/2011 10:47 PM | | |
|-----------------------|--------|--------------------------|---------|---------------|------|----------------|---------------|-----------------------------------|-----------|-------|
| Client ID: | | Run ID: TOC_W_110312B | | | | SeqNo: 2310097 | | Prep Date: | | DF: 1 |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Organic Carbon, Total | 17.11 | 0.50 | 10 | 7.632 | 94.8 | 80-120 | 0 | | | |

| MSD | | Sample ID: 1103334-01AZMSD | | | | Units: mg/L | | Analysis Date: 3/12/2011 06:57 PM | | |
|-----------------------|--------|----------------------------|---------|---------------|------|----------------|---------------|-----------------------------------|-----------|-------|
| Client ID: | | Run ID: TOC_W_110312B | | | | SeqNo: 2310089 | | Prep Date: | | DF: 1 |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Organic Carbon, Total | 27.84 | 0.50 | 10 | 18.1 | 97.4 | 80-120 | 26.99 | 3.12 | 20 | E |

| MSD | | Sample ID: 1103192-01DMSD | | | | Units: mg/L | | Analysis Date: 3/12/2011 11:16 PM | | |
|-----------------------|--------|---------------------------|---------|---------------|------|----------------|---------------|-----------------------------------|-----------|-------|
| Client ID: | | Run ID: TOC_W_110312B | | | | SeqNo: 2310098 | | Prep Date: | | DF: 1 |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Organic Carbon, Total | 16.83 | 0.50 | 10 | 7.632 | 92 | 80-120 | 17.11 | 1.64 | 20 | |

The following samples were analyzed in this batch:

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
Work Order: 1103223
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R106851** Instrument ID **BALANCE1** Method: **M2540D**

| MBLK | | Sample ID: BLANK-R106851 | | | | Units: mg/L | | Analysis Date: 3/14/2011 11:00 AM | | |
|----------------------------------|--------|---------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: BALANCE1_110314A | | | | SeqNo: 2312804 | | Prep Date: | | DF: 1 |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Suspended Solids (Residue, Non-F | U | 2.0 | | | | | | | | |

| LCS | | Sample ID: LCS-R106851 | | | | Units: mg/L | | Analysis Date: 3/14/2011 11:00 AM | | |
|----------------------------------|--------|---------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: BALANCE1_110314A | | | | SeqNo: 2312805 | | Prep Date: | | DF: 1 |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Suspended Solids (Residue, Non-F | 90 | 2.0 | 100 | 0 | 90 | 78-120 | 0 | | | |

| DUP | | Sample ID: 1103190-02ADUP | | | | Units: mg/L | | Analysis Date: 3/14/2011 11:00 AM | | |
|----------------------------------|--------|----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: BALANCE1_110314A | | | | SeqNo: 2312785 | | Prep Date: | | DF: 1 |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Suspended Solids (Residue, Non-F | U | 2.0 | 0 | 0 | 0 | 0-0 | 1.333 | 0 | 20 | |

The following samples were analyzed in this batch:

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
Work Order: 1103223
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R106857** Instrument ID **BALANCE1** Method: **M2540C**

| MBLK | | Sample ID: BLANK-R106857 | | | | Units: mg/L | | Analysis Date: 3/14/2011 11:00 AM | | |
|--------------------------------------|--------|---------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: BALANCE1_110314C | | | | SeqNo: 2312938 | | Prep Date: | | DF: 1 |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Total Dissolved Solids (Residue, Fil | U | 10 | | | | | | | | |

| LCS | | Sample ID: LCS-R106857 | | | | Units: mg/L | | Analysis Date: 3/14/2011 11:00 AM | | |
|--------------------------------------|--------|---------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: BALANCE1_110314C | | | | SeqNo: 2312939 | | Prep Date: | | DF: 1 |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Total Dissolved Solids (Residue, Fil | 1010 | 10 | 1000 | 0 | 101 | 85-115 | 0 | | | |

| DUP | | Sample ID: 1103301-02ADUP | | | | Units: mg/L | | Analysis Date: 3/14/2011 11:00 AM | | |
|--------------------------------------|--------|----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: BALANCE1_110314C | | | | SeqNo: 2312900 | | Prep Date: | | DF: 1 |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Total Dissolved Solids (Residue, Fil | 304 | 10 | 0 | 0 | 0 | 0-0 | 354 | 15.2 | 20 | |

| DUP | | Sample ID: 1103419-01CZDUP | | | | Units: mg/L | | Analysis Date: 3/14/2011 11:00 AM | | |
|--------------------------------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: BALANCE1_110314C | | | | SeqNo: 2312915 | | Prep Date: | | DF: 1 |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Total Dissolved Solids (Residue, Fil | 222 | 10 | 0 | 0 | 0 | 0-0 | 212 | 4.61 | 20 | |

The following samples were analyzed in this batch: 1103223-01C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
 Work Order: 1103223
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R106866** Instrument ID **WetChem** Method: **SM4500 S2-F**

| MBLK | | Sample ID: WMB-031411-R106866 | | | | Units: mg/L | | Analysis Date: 3/14/2011 11:00 AM | | | |
|------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|--|
| Client ID: | | Run ID: WETCHEM_110314J | | | | SeqNo: 2313034 | | Prep Date: | | DF: 1 | |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | |
| Sulfide | 0.8 | 1.0 | | | | | | | | J | |

| LCS | | Sample ID: WLCS-031411-R106866 | | | | Units: mg/L | | Analysis Date: 3/14/2011 11:00 AM | | | |
|------------|--------|---------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|--|
| Client ID: | | Run ID: WETCHEM_110314J | | | | SeqNo: 2313035 | | Prep Date: | | DF: 1 | |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | |
| Sulfide | 20.6 | 1.0 | 25 | 0 | 82.4 | 80-120 | 0 | | | | |

| LCSD | | Sample ID: WLCSD-031411-R106866 | | | | Units: mg/L | | Analysis Date: 3/14/2011 11:00 AM | | | |
|------------|--------|--|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|--|
| Client ID: | | Run ID: WETCHEM_110314J | | | | SeqNo: 2313040 | | Prep Date: | | DF: 1 | |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | |
| Sulfide | 20.4 | 1.0 | 25 | 0 | 81.6 | 80-120 | 20.6 | 0.976 | 20 | | |

| DUP | | Sample ID: 1103221-01EDUP | | | | Units: mg/L | | Analysis Date: 3/14/2011 11:00 AM | | | |
|------------|--------|----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|--|
| Client ID: | | Run ID: WETCHEM_110314J | | | | SeqNo: 2313067 | | Prep Date: | | DF: 1 | |
| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | |
| Sulfide | U | 1.0 | 0 | 0 | 0 | -0 0 | 0.4 | 0 | 20 | | |

The following samples were analyzed in this batch: 1103223-01E

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
Work Order: 1103223
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R107026** Instrument ID **WetChem** Method: **SM2320B**

MBLK Sample ID: **WBLKW1-031811-R107026** Units: **mg/L** Analysis Date: **3/18/2011 01:00 PM**

Client ID: Run ID: **WETCHEM_110318E** SeqNo: **2317283** Prep Date: DF: **1**

| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|------------------------------|--------|-----|---------|---------------|------|---------------|---------------|------|-----------|------|
| Alkalinity, Total (As CaCO3) | U | 5.0 | | | | | | | | |

LCS Sample ID: **WLCSW1-031811-R107026** Units: **mg/L** Analysis Date: **3/18/2011 01:00 PM**

Client ID: Run ID: **WETCHEM_110318E** SeqNo: **2317284** Prep Date: DF: **1**

| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|------------------------------|--------|-----|---------|---------------|------|---------------|---------------|------|-----------|------|
| Alkalinity, Total (As CaCO3) | 992.5 | 5.0 | 1000 | 0 | 99.2 | 80-120 | 0 | | | |

DUP Sample ID: **1103223-01CDUP** Units: **mg/L** Analysis Date: **3/18/2011 01:00 PM**

Client ID: **QA030711-2** Run ID: **WETCHEM_110318E** SeqNo: **2317287** Prep Date: DF: **1**

| Analyte | Result | MQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|------------------------------|--------|-----|---------|---------------|------|---------------|---------------|-------|-----------|------|
| Alkalinity, Total (As CaCO3) | 405.9 | 5.0 | 0 | 0 | 0 | 0-0 | 404.9 | 0.244 | 20 | |

The following samples were analyzed in this batch: 1103223-01C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie
Project: El Paso Smelter
WorkOrder: 1103223

**QUALIFIERS,
ACRONYMS, UNITS**

| <u>Qualifier</u> | <u>Description</u> |
|------------------|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| M | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL |

| <u>Acronym</u> | <u>Description</u> |
|----------------|-------------------------------------|
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitation Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |

| <u>Units Reported</u> | <u>Description</u> |
|-----------------------|----------------------|
| mg/L | Milligrams per Liter |

Sample Receipt Checklist

Client Name: MALCOLM PIRNIE-EL PASO

Date/Time Received: 08-Mar-11 09:00

Work Order: 1103223

Received by: SAY

Checklist completed by Parash M. Ciga 08-Mar-11
eSignature Date

Reviewed by: Jay Lynn F Thibault 09-Mar-11
eSignature Date

Matrices: Water

Carrier name: FedEx

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [checked] No [] Not Present []
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No []

Temperature(s)/Thermometer(s): 0.9C 002

Cooler(s)/Kit(s): 1454

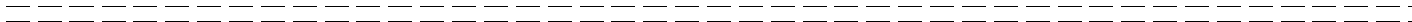
Water - VOA vials have zero headspace? Yes [] No [] No VOA vials submitted [checked]

Water - pH acceptable upon receipt? Yes [checked] No [] N/A []

pH adjusted? Yes [] No [checked] N/A []

pH adjusted by: []

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments: []

CorrectiveAction: []