07-Mar-2013

Amy McDonald
Environmental Resources Management
15810 Park Ten Place
Suite 300
Houston, TX 77084

Tel: (281) 600-1070
Fax: (281) 600-1001

Re: ASARCO 0118148-45 Work Order: **1303112**

Dear Amy,

ALS Environmental received 1 sample on 05-Mar-2013 07:00 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 51.

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

Sincerely,

Electronically approved by: Luke F. Hernandez

Bernadette A. Fini
Project Manager

Certificate No: TX: T104704231-12-10

ALS Environmental

Date: 07-Mar-13

Client: Environmental Resources Management
Project: ASARCO 0118148-45
Work Order: **1303112**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1303112-01	CEMEX SOIL	Soil		3/4/2013 16:10	3/5/2013 07:00	☐

Client:	Environmental Resources Management
Project:	ASARCO 0118148-45
Work Order:	1303112

Case Narrative

Batch 68204, Herbicides Method 8151, Sample 1303095-01: MS/MSD is for an unrelated sample. P-flags due to co-elution.

Batch 68218, Pesticides Method 8081, Sample PLCSS1-130305: The multi-response compounds toxaphene and chlordane were not included in the spiking solution for the LCS.

Batch 68218, Pesticides Method 8081, Sample 1303095-01: MS/MSD is for an unrelated sample. P-flags due to co-elution.

Batch 68232, TPH Method TX1005, Sample 1303095-01: MS/MSD is for an unrelated sample.

Batch 68225, Total Metals Method 6020, Sample 1303068-01: MS/MSD and DUP is for an unrelated sample.

Batch 68217, Semivolatile Organics Method 8270, Sample SLCSS1-130305: Low recovery for 1-Naphthylamine and p-Phenylenediamine due to poor performing compounds. The MS/MSD is for an unrelated sample.

Batch R143573, Volatile Organics Method 8260, Sample 1303095-01: The MS/MSD is for an unrelated sample.

ALS Environmental

Date: *07-Mar-13*

Client: Environmental Resources Management
Project: ASARCO 0118148-45

Work Order: 1303112

Lab ID: 1303112-01A
Client Sample ID: CEMEX SOIL

Collection Date: 3/4/2013 4:10:00 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
APPENDIX IX VOLATILES - SW-8260C			**SW8260**			Analyst: **WLR**
1,1,1,2-Tetrachloroethane	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
1,1,1-Trichloroethane	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
1,1,2,2-Tetrachloroethane	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
1,1,2-Trichloroethane	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
1,1-Dichloroethane	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
1,1-Dichloroethene	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
1,2,3-Trichloropropane	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
1,2-Dibromo-3-chloropropane	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
1,2-Dibromoethane	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
1,2-Dichloroethane	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
1,2-Dichloropropane	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
1,4-Dioxane	ND		0.10	mg/Kg-dry	1	3/5/2013 02:57 PM
2-Butanone	ND		0.010	mg/Kg-dry	1	3/5/2013 02:57 PM
2-Chloro-1,3-butadiene	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
2-Hexanone	ND		0.010	mg/Kg-dry	1	3/5/2013 02:57 PM
4-Methyl-2-pentanone	ND		0.010	mg/Kg-dry	1	3/5/2013 02:57 PM
Acetone	ND		0.021	mg/Kg-dry	1	3/5/2013 02:57 PM
Acetonitrile	ND		0.052	mg/Kg-dry	1	3/5/2013 02:57 PM
Acrolein	ND		0.021	mg/Kg-dry	1	3/5/2013 02:57 PM
Acrylonitrile	ND		0.010	mg/Kg-dry	1	3/5/2013 02:57 PM
Allyl Chloride	ND		0.010	mg/Kg-dry	1	3/5/2013 02:57 PM
Benzene	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Bromodichloromethane	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Bromoform	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Bromomethane	ND		0.010	mg/Kg-dry	1	3/5/2013 02:57 PM
Carbon disulfide	ND		0.010	mg/Kg-dry	1	3/5/2013 02:57 PM
Carbon tetrachloride	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Chlorobenzene	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Chloroethane	ND		0.010	mg/Kg-dry	1	3/5/2013 02:57 PM
Chloroform	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Chloromethane	ND		0.010	mg/Kg-dry	1	3/5/2013 02:57 PM
cis-1,2-Dichloroethene	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
cis-1,3-Dichloropropene	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Dibromochloromethane	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Dibromomethane	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Dichlorodifluoromethane	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Ethyl methacrylate	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Ethylbenzene	ND		0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM

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

Isobutyl alcohol	ND	0.10	mg/Kg-dry	1	3/5/2013 02:57 PM
m,p-Xylene	ND	0.010	mg/Kg-dry	1	3/5/2013 02:57 PM
Methacrylonitrile	ND	0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Methyl iodide	ND	0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Methyl methacrylate	ND	0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Methylene chloride	ND	0.010	mg/Kg-dry	1	3/5/2013 02:57 PM
o-Xylene	ND	0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Pentachloroethane	ND	0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Propionitrile	ND	0.052	mg/Kg-dry	1	3/5/2013 02:57 PM
Styrene	ND	0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Tetrachloroethene	ND	0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Toluene	ND	0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
trans-1,2-Dichloroethene	ND	0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
trans-1,3-Dichloropropene	ND	0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
trans-1,4-Dichloro-2-butene	ND	0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Trichloroethene	ND	0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Trichlorofluoromethane	ND	0.0052	mg/Kg-dry	1	3/5/2013 02:57 PM
Vinyl acetate	ND	0.010	mg/Kg-dry	1	3/5/2013 02:57 PM
Vinyl chloride	ND	0.0021	mg/Kg-dry	1	3/5/2013 02:57 PM
Xylenes, Total	ND	0.016	mg/Kg-dry	1	3/5/2013 02:57 PM
1,2-Dichloroethene, Total	ND	0.010	mg/Kg-dry	1	3/5/2013 02:57 PM
Surr: 1,2-Dichloroethane-d4	*102*	*70-128*	*%REC*	1	3/5/2013 02:57 PM
Surr: 4-Bromofluorobenzene	*100*	*73-126*	*%REC*	1	3/5/2013 02:57 PM
Surr: Dibromofluoromethane	*98.6*	*71-128*	*%REC*	1	3/5/2013 02:57 PM
Surr: Toluene-d8	*99.6*	*73-127*	*%REC*	1	3/5/2013 02:57 PM

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

ALS Environmental

Date: *07-Mar-13*

Client: Environmental Resources Management
Project: ASARCO 0118148-45

Work Order: 1303112

Lab ID: 1303112-01B
Client Sample ID: CEMEX SOIL

Collection Date: 3/4/2013 4:10:00 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANOCHLORINE PESTICIDES - SW8081B			**SW8081**		Prep Date: **3/5/2013**	Analyst: **SE**
4,4´-DDD	ND		0.0034	mg/Kg-dry	1	3/5/2013 12:21 PM
4,4´-DDE	ND		0.0034	mg/Kg-dry	1	3/5/2013 12:21 PM
4,4´-DDT	ND		0.0034	mg/Kg-dry	1	3/5/2013 12:21 PM
Aldrin	ND		0.0017	mg/Kg-dry	1	3/5/2013 12:21 PM
alpha-BHC	ND		0.0017	mg/Kg-dry	1	3/5/2013 12:21 PM
beta-BHC	ND		0.0017	mg/Kg-dry	1	3/5/2013 12:21 PM
Chlordane	ND		0.017	mg/Kg-dry	1	3/5/2013 12:21 PM
delta-BHC	ND		0.0017	mg/Kg-dry	1	3/5/2013 12:21 PM
Dieldrin	ND		0.0034	mg/Kg-dry	1	3/5/2013 12:21 PM
Endosulfan I	ND		0.0017	mg/Kg-dry	1	3/5/2013 12:21 PM
Endosulfan II	ND		0.0034	mg/Kg-dry	1	3/5/2013 12:21 PM
Endosulfan sulfate	ND		0.0034	mg/Kg-dry	1	3/5/2013 12:21 PM
Endrin	ND		0.0034	mg/Kg-dry	1	3/5/2013 12:21 PM
Endrin aldehyde	ND		0.0034	mg/Kg-dry	1	3/5/2013 12:21 PM
Endrin ketone	ND		0.0034	mg/Kg-dry	1	3/5/2013 12:21 PM
gamma-BHC	ND		0.0017	mg/Kg-dry	1	3/5/2013 12:21 PM
Heptachlor	ND		0.0017	mg/Kg-dry	1	3/5/2013 12:21 PM
Heptachlor epoxide	ND		0.0017	mg/Kg-dry	1	3/5/2013 12:21 PM
Methoxychlor	ND		0.017	mg/Kg-dry	1	3/5/2013 12:21 PM
Toxaphene	ND		0.017	mg/Kg-dry	1	3/5/2013 12:21 PM
Surr: Decachlorobiphenyl	*107*		*59-144*	*%REC*	1	3/5/2013 12:21 PM
Surr: Tetrachloro-m-xylene	*83.7*		*56.9-130*	*%REC*	1	3/5/2013 12:21 PM
CHLORINATED HERBICIDES - SW8151A			**SW8151**		Prep Date: **3/5/2013**	Analyst: **SE**
2,4,5-T	ND		0.0034	mg/Kg-dry	1	3/5/2013 11:20 PM
2,4,5-TP (Silvex)	ND		0.0034	mg/Kg-dry	1	3/5/2013 11:20 PM
2,4-D	ND		0.0069	mg/Kg-dry	1	3/5/2013 11:20 PM
2,4-DB	ND		0.0069	mg/Kg-dry	1	3/5/2013 11:20 PM
Dalapon	ND		0.0034	mg/Kg-dry	1	3/5/2013 11:20 PM
Dicamba	ND		0.0034	mg/Kg-dry	1	3/5/2013 11:20 PM
Dichlorprop	ND		0.0069	mg/Kg-dry	1	3/5/2013 11:20 PM
Dinoseb	ND		0.0034	mg/Kg-dry	1	3/5/2013 11:20 PM
MCPA	ND		0.69	mg/Kg-dry	1	3/5/2013 11:20 PM
MCPP	ND		0.69	mg/Kg-dry	1	3/5/2013 11:20 PM
Surr: DCAA	*94.4*		*30-150*	*%REC*	1	3/5/2013 11:20 PM
MERCURY - SW7471B			**SW7471A**		Prep Date: **3/6/2013**	Analyst: **OFO**
Mercury	ND		0.00365	mg/Kg-dry	1	3/6/2013 12:49 PM
METALS			**SW6020**		Prep Date: **3/5/2013**	Analyst: **JCJ**

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

Aluminum	**577**		**49.9**	**mg/Kg-dry**	50	3/7/2013 02:20 PM
Antimony	ND		0.499	mg/Kg-dry	1	3/7/2013 06:42 AM
Arsenic	**5.35**		**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Barium	**22.5**		**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Beryllium	**0.812**		**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Boron	**4.05**		**2.49**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Cadmium	ND		0.499	mg/Kg-dry	1	3/7/2013 06:42 AM
Calcium	**224,000**		**2,490**	**mg/Kg-dry**	50	3/7/2013 02:20 PM
Chromium	**2.77**		**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Cobalt	**2.36**		**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Copper	**3.32**		**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Iron	**3,780**		**49.9**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Lead	**9.80**		**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Magnesium	**42,000**		**2,490**	**mg/Kg-dry**	50	3/7/2013 02:20 PM
Manganese	**293**		**24.9**	**mg/Kg-dry**	50	3/7/2013 02:20 PM
Molybdenum	**0.919**		**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Nickel	**7.63**		**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Potassium	**342**		**49.9**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Selenium	**0.565**		**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Silver	ND		0.499	mg/Kg-dry	1	3/7/2013 06:42 AM
Sodium	**163**		**49.9**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Strontium	**112**		**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Thallium	ND		0.499	mg/Kg-dry	1	3/7/2013 06:42 AM
Tin	ND		2.49	mg/Kg-dry	1	3/7/2013 06:42 AM
Titanium	**14.4**		**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Uranium	**0.751**	n	**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Vanadium	**6.39**		**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
Zinc	**34.8**		**0.499**	**mg/Kg-dry**	1	3/7/2013 06:42 AM
APPENDIX IX SEMIVOLATILES			**SW8270**		Prep Date: **3/5/2013**	Analyst: **JLJ**
1,2,4,5-Tetrachlorobenzene	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
1,2,4-Trichlorobenzene	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
1,2-Dichlorobenzene	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
1,2-Diphenylhydrazine	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
1,3-Dichlorobenzene	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
1,3-Dinitrobenzene	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
1,4-Dichlorobenzene	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
1,4-Naphthoquinone	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
1-Naphthylamine	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2,3,4,6-Tetrachlorophenol	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2,4,5-Trichlorophenol	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2,4,6-Trichlorophenol	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2,4-Dichlorophenol	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2,4-Dimethylphenol	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2,4-Dinitrophenol	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2,4-Dinitrotoluene	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2,6-Dichlorophenol	ND		0.17	mg/Kg-dry	1	3/5/2013 03:12 PM

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

2,6-Dinitrotoluene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2-Acetylaminofluorene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2-Chloronaphthalene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2-Chlorophenol	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2-Methylnaphthalene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2-Methylphenol	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2-Naphthylamine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2-Nitroaniline	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2-Nitrophenol	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
2-Picoline	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
3&4-Methylphenol	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
3,3´-Dichlorobenzidine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
3,3´-Dimethylbenzidine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
3-Methylcholanthrene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
3-Nitroaniline	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
4,6-Dinitro-2-methylphenol	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
4-Aminobiphenyl	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
4-Bromophenyl phenyl ether	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
4-Chloro-3-methylphenol	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
4-Chloroaniline	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
4-Chlorophenyl phenyl ether	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
4-Nitroaniline	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
4-Nitrophenol	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
4-Nitroquinoline-1-oxide	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
5-Nitro-o-toluidine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
7,12-Dimethylbenz(a)anthracene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
a,a-Dimethylphenethylamine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Acenaphthene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Acenaphthylene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Acetophenone	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Aniline	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Anthracene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Benzo(a)anthracene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Benzo(a)pyrene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Benzo(b)fluoranthene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Benzo(g,h,i)perylene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Benzo(k)fluoranthene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Benzyl alcohol	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Bis(2-chloroethoxy)methane	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Bis(2-chloroethyl)ether	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Bis(2-chloroisopropyl)ether	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Bis(2-ethylhexyl)phthalate	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Butyl benzyl phthalate	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Chlorobenzilate	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Chrysene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Diallate	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM

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

Dibenz(a,h)anthracene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Dibenzofuran	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Diethyl phthalate	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Dimethoate	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Dimethyl phthalate	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Di-n-butyl phthalate	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Di-n-octyl phthalate	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Diphenylamine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Ethyl methanesulfonate	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Fluoranthene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Fluorene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Hexachlorobenzene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Hexachlorobutadiene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Hexachlorocyclopentadiene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Hexachloroethane	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Hexachlorophene	ND	1.7	mg/Kg-dry	1	3/5/2013 03:12 PM
Hexachloropropene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Isodrin	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Isophorone	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Isosafrole	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Kepone	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Methapyrilene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Methyl methanesulfonate	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Naphthalene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Nitrobenzene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
N-Nitrosodiethylamine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
N-Nitrosodimethylamine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
N-Nitroso-di-n-butylamine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
N-Nitrosodi-n-propylamine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
N-Nitrosodiphenylamine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
N-Nitrosomethylethylamine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
N-Nitrosomorpholine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
N-Nitrosopiperidine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
N-Nitrosopyrrolidine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
O,O,O-Triethylphosphorothioate	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
o-Toluidine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
p-Dimethylaminoazobenzene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Pentachlorobenzene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Pentachloronitrobenzene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Pentachlorophenol	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Phenacetin	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Phenanthrene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Phenol	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
p-Phenylenediamine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Pronamide	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM

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

Pyrene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Pyridine	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Safrole	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Sym-Trinitrobenzene	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Tetraethyldithiopyrophosphate	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Thionazin	ND	0.17	mg/Kg-dry	1	3/5/2013 03:12 PM
Surr: 2,4,6-Tribromophenol	*64.9*	*36-126*	*%REC*	1	3/5/2013 03:12 PM
Surr: 2-Fluorobiphenyl	*69.5*	*43-125*	*%REC*	1	3/5/2013 03:12 PM
Surr: 2-Fluorophenol	*60.5*	*37-125*	*%REC*	1	3/5/2013 03:12 PM
Surr: 4-Terphenyl-d14	*76.3*	*32-125*	*%REC*	1	3/5/2013 03:12 PM
Surr: Nitrobenzene-d5	*73.7*	*37-125*	*%REC*	1	3/5/2013 03:12 PM
Surr: Phenol-d6	*65.9*	*40-125*	*%REC*	1	3/5/2013 03:12 PM
MOISTURE		**SW3550**			Analyst: **KAH**
Percent Moisture	**4.56**	**0.0100**	**wt%**	1	3/5/2013 05:25 PM

Lab ID: 1303112-01C
Client Sample ID: CEMEX SOIL

Collection Date: 3/4/2013 4:10:00 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS BY SW8082A			**SW8082**		Prep Date: **3/5/2013**	Analyst: **NPI**
Aroclor 1016	ND		0.017	mg/Kg-dry	1	3/5/2013 01:28 PM
Aroclor 1221	ND		0.017	mg/Kg-dry	1	3/5/2013 01:28 PM
Aroclor 1232	ND		0.017	mg/Kg-dry	1	3/5/2013 01:28 PM
Aroclor 1242	ND		0.017	mg/Kg-dry	1	3/5/2013 01:28 PM
Aroclor 1248	ND		0.017	mg/Kg-dry	1	3/5/2013 01:28 PM
Aroclor 1254	ND		0.017	mg/Kg-dry	1	3/5/2013 01:28 PM
Aroclor 1260	ND		0.017	mg/Kg-dry	1	3/5/2013 01:28 PM
Surr: Decachlorobiphenyl	*114*		*54-143*	*%REC*	1	3/5/2013 01:28 PM
Surr: Tetrachloro-m-xylene	*115*		*55-137*	*%REC*	1	3/5/2013 01:28 PM

Lab ID: 1303112-01D
Client Sample ID: CEMEX SOIL

Collection Date: 3/4/2013 4:10:00 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TEXAS TPH - TX1005			**TX1005**		Prep Date: **3/5/2013**	Analyst: **KMB**
nC6 to nC12	ND		52	mg/Kg-dry	1	3/5/2013 10:40 PM
>nC12 to nC28	ND		52	mg/Kg-dry	1	3/5/2013 10:40 PM
>nC28 to nC35	ND		52	mg/Kg-dry	1	3/5/2013 10:40 PM
Total Petroleum Hydrocarbon	ND		52	mg/Kg-dry	1	3/5/2013 10:40 PM
Surr: 2-Fluorobiphenyl	*112*		*70-130*	*%REC*	1	3/5/2013 10:40 PM
Surr: Trifluoromethyl benzene	*109*		*70-130*	*%REC*	1	3/5/2013 10:40 PM

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

Batch ID: **68204** Instrument ID **ECD_9** Method: **SW8151**

MBLK Sample ID: **HBLKS2-130305-68204** Units: **µg/Kg** Analysis Date: **3/5/2013 10:06 PM**

Client ID: Run ID: **ECD_9_130305A** SeqNo: **3132014** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-T	ND	3.3								
2,4,5-TP (Silvex)	ND	3.3								
2,4-D	ND	6.6								
2,4-DB	ND	6.6								
Dalapon	ND	3.3								
Dicamba	ND	3.3								
Dichlorprop	ND	6.6								
Dinoseb	ND	3.3								
MCPA	ND	660								
MCPP	ND	660								
Surr: DCAA	156.7	6.6	*166.7*	0	*94*	*30-150*	0			

LCS Sample ID: **HLCSS2-130305-68204** Units: **µg/Kg** Analysis Date: **3/5/2013 10:43 PM**

Client ID: Run ID: **ECD_9_130305A** SeqNo: **3132015** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-T	81.84	3.3	83.33	0	98.2	50-150	0			
2,4,5-TP (Silvex)	81.43	3.3	83.33	0	97.7	50-150	0			
2,4-D	80.74	6.6	83.33	0	96.9	40-150	0			
2,4-DB	82.21	6.6	83.33	0	98.7	40-150	0			
Dalapon	106.2	3.3	83.33	0	127	30-150	0			
Dicamba	77.28	3.3	83.33	0	92.7	40-150	0			
Dichlorprop	87.79	6.6	83.33	0	105	40-150	0			
Dinoseb	69.53	3.3	83.33	0	83.4	40-150	0			
MCPA	8095	660	8333	0	97.1	40-150	0			
MCPP	8615	660	8333	0	103	40-150	0			
Surr: DCAA	157.5	6.6	*166.7*	0	*94.5*	*30-150*	0			

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

QC BATCH REPORT

Batch ID: **68204** Instrument ID **ECD_9** Method: **SW8151**

MS Sample ID: **1303095-01DMS** Units: **µg/Kg** Analysis Date: **3/6/2013 12:35 AM**

Client ID: Run ID: **ECD_9_130305A** SeqNo: **3132017** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-T	79.52	3.3	83.11	0	95.7	50-150	0			
2,4,5-TP (Silvex)	82.84	3.3	83.11	0	99.7	50-150	0			
2,4-D	76.61	6.6	83.11	0	92.2	40-150	0			
2,4-DB	92.45	6.6	83.11	0	111	40-150	0			P
Dalapon	76.66	3.3	83.11	0	92.2	30-150	0			P
Dicamba	54.13	3.3	83.11	0	65.1	40-150	0			
Dichlorprop	93.33	6.6	83.11	0	112	40-150	0			
Dinoseb	93.02	3.3	83.11	0	112	40-150	0			
MCPA	6934	660	8311	0	83.4	40-150	0			
MCPP	8447	660	8311	0	102	40-150	0			
Surr: DCAA	160.2	6.6	*166.2*	0	*96.4*	*30-150*	0			

MSD Sample ID: **1303095-01DMSD** Units: **µg/Kg** Analysis Date: **3/6/2013 01:12 AM**

Client ID: Run ID: **ECD_9_130305A** SeqNo: **3132018** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-T	79.5	3.3	83.08	0	95.7	50-150	79.52	0.0215	30	
2,4,5-TP (Silvex)	82.55	3.3	83.08	0	99.4	50-150	82.84	0.345	30	
2,4-D	73.54	6.6	83.08	0	88.5	40-150	76.61	4.09	30	
2,4-DB	92.48	6.6	83.08	0	111	40-150	92.45	0.0365	30	P
Dalapon	75.92	3.3	83.08	0	91.4	30-150	76.66	0.976	30	P
Dicamba	55.02	3.3	83.08	0	66.2	40-150	54.13	1.64	30	
Dichlorprop	94.43	6.6	83.08	0	114	40-150	93.33	1.16	30	
Dinoseb	94.29	3.3	83.08	0	113	40-150	93.02	1.35	30	
MCPA	6382	660	8308	0	76.8	40-150	6934	8.29	30	
MCPP	8298	660	8308	0	99.9	40-150	8447	1.78	30	
Surr: DCAA	162.8	6.6	*166.2*	0	*98*	*30-150*	160.2	*1.57*	*30*	

The following samples were analyzed in this batch: 1303112-01B

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **68218** Instrument ID **ECD_1** Method: **SW8081**

MBLK Sample ID: **PBLKS1-130305-68218** Units: **µg/Kg** Analysis Date: **3/5/2013 11:48 AM**
Client ID: Run ID: **ECD_1_130305B** SeqNo: **3131803** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	ND	3.3								
4,4´-DDE	ND	3.3								
4,4´-DDT	ND	3.3								
Aldrin	ND	1.7								
alpha-BHC	ND	1.7								
beta-BHC	ND	1.7								
Chlordane	ND	17								
delta-BHC	ND	1.7								
Dieldrin	ND	3.3								
Endosulfan I	ND	1.7								
Endosulfan II	ND	3.3								
Endosulfan sulfate	ND	3.3								
Endrin	ND	3.3								
Endrin aldehyde	ND	3.3								
Endrin ketone	ND	3.3								
gamma-BHC	ND	1.7								
Heptachlor	ND	1.7								
Heptachlor epoxide	ND	1.7								
Methoxychlor	ND	17								
Toxaphene	ND	17								
Surr: Decachlorobiphenyl	6.156	3.3	*6.667*	0	*92.3*	*59-144*	0			
Surr: Tetrachloro-m-xylene	5.275	1.6	*6.667*	0	*79.1*	*56.9-130*	0			

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **68218** Instrument ID **ECD_1** Method: **SW8081**

LCS Sample ID: **PLCSS1-130305-68218** Units: **µg/Kg** Analysis Date: **3/5/2013 12:04 PM**
Client ID: Run ID: **ECD_1_130305B** SeqNo: **3131804** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	14.99	3.3	16.67	0	90	53-138	0			
4,4´-DDE	14.5	3.3	16.67	0	87	57-136	0			
4,4´-DDT	11.85	3.3	16.67	0	71.1	53-139	0			
Aldrin	6.482	1.7	8.333	0	77.8	52-130	0			
alpha-BHC	6.528	1.7	8.333	0	78.3	52-130	0			
beta-BHC	6.372	1.7	8.333	0	76.5	62-130	0			
delta-BHC	6.549	1.7	8.333	0	78.6	41-137	0			
Dieldrin	13.65	3.3	16.67	0	81.9	54-138	0			
Endosulfan I	6.784	1.7	8.333	0	81.4	55-132	0			
Endosulfan II	13.96	3.3	16.67	0	83.7	59-134	0			
Endosulfan sulfate	14.53	3.3	16.67	0	87.2	54-141	0			
Endrin	13.92	3.3	16.67	0	83.5	60-157	0			
Endrin aldehyde	14.77	3.3	16.67	0	88.6	56-146	0			
Endrin ketone	14.36	3.3	16.67	0	86.2	56-153	0			
gamma-BHC	6.774	1.7	8.333	0	81.3	52-133	0			
Heptachlor	6.782	1.7	8.333	0	81.4	54-134	0			
Heptachlor epoxide	6.698	1.7	8.333	0	80.4	58-130	0			
Methoxychlor	77.92	17	83.33	0	93.5	60-140	0			
Surr: Decachlorobiphenyl	6.345	3.3	*6.667*	0	*95.2*	*59-144*	0			
Surr: Tetrachloro-m-xylene	5.425	1.6	*6.667*	0	*81.4*	*56.9-130*	0			

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

QC BATCH REPORT

Batch ID: **68218** Instrument ID **ECD_1** Method: **SW8081**

MS Sample ID: **1303095-01DMS** Units: **µg/Kg** Analysis Date: **3/5/2013 12:54 PM**

Client ID: Run ID: **ECD_1_130305B** SeqNo: **3131807** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	16.05	3.3	16.64	0	96.5	53-138	0			
4,4´-DDE	15.92	3.3	16.64	0	95.6	57-136	0			
4,4´-DDT	14.18	3.3	16.64	0	85.2	53-139	0			
Aldrin	7.963	1.7	8.322	0	95.7	52-130	0			
alpha-BHC	8.041	1.7	8.322	0	96.6	52-130	0			
beta-BHC	7.287	1.7	8.322	0	87.6	62-130	0			
delta-BHC	8.026	1.7	8.322	0	96.4	41-137	0			
Dieldrin	15.16	3.3	16.64	0	91.1	54-138	0			
Endosulfan I	7.293	1.7	8.322	0	87.6	55-132	0			
Endosulfan II	15.62	3.3	16.64	0	93.8	59-134	0			
Endosulfan sulfate	16.18	3.3	16.64	0	97.2	54-141	0			
Endrin	15.63	3.3	16.64	0	93.9	60-157	0			
Endrin aldehyde	16.45	3.3	16.64	0	98.8	56-146	0			
Endrin ketone	16.32	3.3	16.64	0	98.1	56-153	0			
gamma-BHC	7.784	1.7	8.322	0	93.5	52-133	0			
Heptachlor	9.916	1.7	8.322	0	119	54-134	0			P
Heptachlor epoxide	7.415	1.7	8.322	0	89.1	58-130	0			
Methoxychlor	91.38	17	83.22	0	110	60-140	0			
Surr: Decachlorobiphenyl	6.946	3.3	*6.658*	0	*104*	*59-144*	0			
Surr: Tetrachloro-m-xylene	5.327	1.6	*6.658*	0	*80*	*56.9-130*	0			

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **68218** Instrument ID **ECD_1** Method: **SW8081**

MSD Sample ID: **1303095-01DMSD** Units: **µg/Kg** Analysis Date: **3/5/2013 01:10 PM**

Client ID: Run ID: **ECD_1_130305B** SeqNo: **3131808** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	17.07	3.3	16.65	0	102	53-138	16.05	6.11	30	
4,4´-DDE	16.62	3.3	16.65	0	99.8	57-136	15.92	4.3	30	
4,4´-DDT	15.13	3.3	16.65	0	90.9	53-139	14.18	6.46	30	
Aldrin	8.391	1.7	8.325	0	101	52-130	7.963	5.22	30	
alpha-BHC	8.341	1.7	8.325	0	100	52-130	8.041	3.66	30	
beta-BHC	7.651	1.7	8.325	0	91.9	62-130	7.287	4.88	30	
delta-BHC	8.417	1.7	8.325	0	101	41-137	8.026	4.76	30	
Dieldrin	15.98	3.3	16.65	0	96	54-138	15.16	5.24	30	
Endosulfan I	7.648	1.7	8.325	0	91.9	55-132	7.293	4.75	30	
Endosulfan II	16.23	3.3	16.65	0	97.5	59-134	15.62	3.82	30	
Endosulfan sulfate	17.03	3.3	16.65	0	102	54-141	16.18	5.08	30	
Endrin	16.29	3.3	16.65	0	97.8	60-157	15.63	4.13	30	
Endrin aldehyde	17.33	3.3	16.65	0	104	56-146	16.45	5.23	30	
Endrin ketone	17.25	3.3	16.65	0	104	56-153	16.32	5.52	30	
gamma-BHC	8.245	1.7	8.325	0	99	52-133	7.784	5.76	30	
Heptachlor	10.34	1.7	8.325	0	124	54-134	9.916	4.17	30	P
Heptachlor epoxide	7.669	1.7	8.325	0	92.1	58-130	7.415	3.36	30	
Methoxychlor	96.53	17	83.25	0	116	60-140	91.38	5.48	30	
Surr: Decachlorobiphenyl	7.316	3.3	*6.66*	0	*110*	*59-144*	6.946	*5.18*	*30*	
Surr: Tetrachloro-m-xylene	5.559	1.6	*6.66*	0	*83.5*	*56.9-130*	5.327	*4.27*	*30*	

The following samples were analyzed in this batch: 1303112-01B

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **68219** Instrument ID **ECD_7** Method: **SW8082**

MBLK Sample ID: **PBLKS2-130305-68219** Units: **µg/Kg** Analysis Date: **3/5/2013 01:43 PM**
Client ID: Run ID: **ECD_7_130305A** SeqNo: **3131547** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	ND	17								
Aroclor 1221	ND	17								
Aroclor 1232	ND	17								
Aroclor 1242	ND	17								
Aroclor 1248	ND	17								
Aroclor 1254	ND	17								
Aroclor 1260	ND	17								
Surr: Decachlorobiphenyl	5.922	1.6	*6.667*	0	*88.8*	*54-143*	0			
Surr: Tetrachloro-m-xylene	5.845	1.6	*6.667*	0	*87.7*	*55-137*	0			

LCS Sample ID: **PLCSS2-130305-68219** Units: **µg/Kg** Analysis Date: **3/5/2013 01:58 PM**
Client ID: Run ID: **ECD_7_130305A** SeqNo: **3131549** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	175	17	166.7	0	105	53-135	0			
Aroclor 1260	164.4	17	166.7	0	98.7	54-137	0			
Surr: Decachlorobiphenyl	7.173	1.6	*6.667*	0	*108*	*54-143*	0			
Surr: Tetrachloro-m-xylene	6.669	1.6	*6.667*	0	*100*	*55-137*	0			

MS Sample ID: **1303095-01EMS** Units: **µg/Kg** Analysis Date: **3/5/2013 12:58 PM**
Client ID: Run ID: **ECD_7_130305A** SeqNo: **3131543** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	189.3	17	166.4	0	114	53-135	0			
Aroclor 1260	181.2	17	166.4	0	109	54-137	0			
Surr: Decachlorobiphenyl	7.878	1.6	*6.658*	0	*118*	*54-143*	0			
Surr: Tetrachloro-m-xylene	7.765	1.6	*6.658*	0	*117*	*55-137*	0			

MSD Sample ID: **1303095-01EMSD** Units: **µg/Kg** Analysis Date: **3/5/2013 01:13 PM**
Client ID: Run ID: **ECD_7_130305A** SeqNo: **3131544** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	186.6	17	166.5	0	112	53-135	189.3	1.44	30	
Aroclor 1260	175.2	17	166.5	0	105	54-137	181.2	3.36	30	
Surr: Decachlorobiphenyl	7.748	1.6	*6.66*	0	*116*	*54-143*	7.878	*1.67*	*30*	
Surr: Tetrachloro-m-xylene	7.634	1.6	*6.66*	0	*115*	*55-137*	7.765	*1.71*	*30*	

The following samples were analyzed in this batch: 1303112-01C

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **68232** Instrument ID **FID-12** Method: **TX1005**

MBLK Sample ID: **FBLKS1-130305-68232** Units: **mg/Kg** Analysis Date: **3/5/2013 11:43 PM**
Client ID: Run ID: **FID-12_130304B** SeqNo: **3131861** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	ND	50								
>nC12 to nC28	ND	50								
>nC28 to nC35	ND	50								
Total Petroleum Hydrocarbon	ND	50								
Surr: 2-Fluorobiphenyl	22.09	0	*25*	0	*88.4*	*70-130*	0			
Surr: Trifluoromethyl benzene	23.49	0	*25*	0	*93.9*	*70-130*	0			

LCS Sample ID: **FLCSS1-130305-68232** Units: **mg/Kg** Analysis Date: **3/6/2013 12:14 AM**
Client ID: Run ID: **FID-12_130304B** SeqNo: **3131863** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	246.6	50	250	0	98.7	75-125	0			
>nC12 to nC28	310.1	50	250	0	124	75-125	0			
Surr: 2-Fluorobiphenyl	29.56	0	*25*	0	*118*	*70-130*	0			
Surr: Trifluoromethyl benzene	30.35	0	*25*	0	*121*	*70-130*	0			

LCSD Sample ID: **FLCSDS1-130305-68232** Units: **mg/Kg** Analysis Date: **3/6/2013 12:26 PM**
Client ID: Run ID: **FID-12_130304B** SeqNo: **3132053** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	217	50	250	0	86.8	75-125	246.6	12.8	20	
>nC12 to nC28	263.2	50	250	0	105	75-125	310.1	16.4	20	
Surr: 2-Fluorobiphenyl	30.09	0	*25*	0	*120*	*70-130*	29.56	*1.78*	*20*	
Surr: Trifluoromethyl benzene	26.11	0	*25*	0	*104*	*70-130*	30.35	*15*	*20*	

MS Sample ID: **1303095-01BMS** Units: **mg/Kg** Analysis Date: **3/5/2013 11:43 PM**
Client ID: Run ID: **FID-12_130304B** SeqNo: **3131884** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	194.9	50	249	0	78.3	75-125	0			
>nC12 to nC28	302.1	50	249	0	121	75-125	0			
Surr: 2-Fluorobiphenyl	17.48	0	*24.9*	0	*70.2*	*70-130*	0			
Surr: Trifluoromethyl benzene	17.57	0	*24.9*	0	*70.6*	*70-130*	0			

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **68232** Instrument ID **FID-12** Method: **TX1005**

MSD Sample ID: **1303095-01BMSD** Units: **mg/Kg** Analysis Date: **3/6/2013 12:14 AM**

Client ID: Run ID: **FID-12_130304B** SeqNo: **3131885** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	228.6	50	248.5	0	92	75-125	194.9	15.9	20	
>nC12 to nC28	282.7	50	248.5	0	114	75-125	302.1	6.61	20	
Surr: 2-Fluorobiphenyl	18.29	0	*24.85*	0	*73.6*	*70-130*	17.48	*4.56*	*20*	
Surr: Trifluoromethyl benzene	24.23	0	*24.85*	0	*97.5*	*70-130*	17.57	*31.8*	*20*	R

The following samples were analyzed in this batch: 1303112-01D

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **68225** Instrument ID **ICPMS03** Method: **SW6020**

MBLK Sample ID: **MBLKS1-030513-68225** Units: **mg/Kg** Analysis Date: **3/7/2013 01:06 PM**

Client ID: Run ID: **ICPMS03_130307A** SeqNo: **3133673** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	1.0								
Antimony	ND	0.50								
Arsenic	ND	0.50								
Barium	ND	0.50								
Beryllium	ND	0.50								
Boron	ND	2.5								
Cadmium	ND	0.50								
Calcium	ND	50								
Chromium	ND	0.50								
Cobalt	ND	0.50								
Copper	ND	0.50								
Iron	ND	50								
Lead	ND	0.50								
Magnesium	ND	50								
Manganese	ND	0.50								
Molybdenum	ND	0.50								
Nickel	ND	0.50								
Potassium	ND	50								
Selenium	ND	0.50								
Silver	ND	0.50								
Sodium	ND	50								
Strontium	ND	0.50								
Thallium	ND	0.50								
Tin	ND	2.5								
Titanium	ND	0.50								
Uranium	ND	0.50								
Vanadium	ND	0.50								
Zinc	ND	0.50								

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **68225** Instrument ID **ICPMS03** Method: **SW6020**

LCS Sample ID: **MLCSS1-030513-68225** Units: **mg/Kg** Analysis Date: **3/7/2013 01:11 PM**
Client ID: Run ID: **ICPMS03_130307A** SeqNo: **3133674** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	10.31	1.0	10	0	103	80-120	0			
Antimony	9.685	0.50	10	0	96.8	80-120	0			
Arsenic	9.142	0.50	10	0	91.4	80-120	0			
Barium	9.148	0.50	10	0	91.5	80-120	0			
Beryllium	8.925	0.50	10	0	89.2	80-120	0			
Boron	43.15	2.5	50	0	86.3	80-120	0			
Cadmium	8.859	0.50	10	0	88.6	80-120	0			
Calcium	912.3	50	1000	0	91.2	80-120	0			
Chromium	9.295	0.50	10	0	93	80-120	0			
Cobalt	9.332	0.50	10	0	93.3	80-120	0			
Copper	9.247	0.50	10	0	92.5	80-120	0			
Iron	927	50	1000	0	92.7	80-120	0			
Lead	8.309	0.50	10	0	83.1	80-120	0			
Magnesium	860.1	50	1000	0	86	80-120	0			
Manganese	9.255	0.50	10	0	92.6	80-120	0			
Molybdenum	8.879	0.50	10	0	88.8	80-120	0			
Nickel	9.266	0.50	10	0	92.7	80-120	0			
Potassium	853.4	50	1000	0	85.3	80-120	0			
Selenium	9.374	0.50	10	0	93.7	80-120	0			
Silver	8.758	0.50	10	0	87.6	80-120	0			
Sodium	851.9	50	1000	0	85.2	80-120	0			
Strontium	8.666	0.50	10	0	86.7	80-120	0			
Thallium	8.261	0.50	10	0	82.6	80-120	0			
Tin	9.281	2.5	10	0	92.8	80-120	0			
Titanium	17.1	0.50	20	0	85.5	80-120	0			
Uranium	8.141	0.50	10	0	81.4	80-120	0			
Vanadium	9.218	0.50	10	0	92.2	80-120	0			
Zinc	9.152	0.50	10	0	91.5	80-120	0			

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

QC BATCH REPORT

Batch ID: **68225** Instrument ID **ICPMS03** Method: **SW6020**

MS Sample ID: **1303068-01CMS** Units: **mg/Kg** Analysis Date: **3/7/2013 02:12 PM**
Client ID: Run ID: **ICPMS05_130307A** SeqNo: **3133792** Prep Date: **3/5/2013** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	282.5	1.9	9.608	225.6	592	75-125	0			SO
Antimony	8.552	0.96	9.608	0.00997	88.9	75-125	0			
Arsenic	9.673	0.96	9.608	0.382	96.7	75-125	0			
Barium	21.46	0.96	9.608	10.58	113	75-125	0			
Beryllium	9.527	0.96	9.608	0.03069	98.8	75-125	0			
Cadmium	9.151	0.96	9.608	0.01965	95	75-125	0			
Calcium	184900	96	960.8	158400	2760	75-125	0			SEO
Chromium	9.415	0.96	9.608	0.3215	94.6	75-125	0			
Cobalt	9.43	0.96	9.608	0.2517	95.5	75-125	0			
Copper	9.84	0.96	9.608	0.9684	92.3	75-125	0			
Iron	1080	96	960.8	194.2	92.2	75-125	0			
Lead	9.125	0.96	9.608	0.1728	93.2	75-125	0			
Magnesium	1176	96	960.8	308.8	90.2	75-125	0			
Manganese	13.11	0.96	9.608	4.642	88.2	75-125	0			
Molybdenum	9.185	0.96	9.608	0.04262	95.2	75-125	0			
Nickel	9.342	0.96	9.608	0.5383	91.6	75-125	0			
Potassium	992.5	96	960.8	54.31	97.6	75-125	0			
Selenium	9.328	0.96	9.608	-0.4423	102	75-125	0			
Silver	9.108	0.96	9.608	0.01153	94.7	75-125	0			
Sodium	883.4	96	960.8	18.24	90	75-125	0			
Strontium	385.2	0.96	9.608	311.2	770	75-125	0			SEO
Thallium	9.241	0.96	9.608	0.002541	96.2	75-125	0			
Tin	9.695	4.8	9.608	0.7072	93.5	75-125	0			
Titanium	23.52	0.96	19.22	4.961	96.6	75-125	0			
Uranium	8.655	0.96	9.608	0.01818	89.9	75-125	0			
Vanadium	9.45	0.96	9.608	-0.07028	99.1	75-125	0			
Zinc	10.29	0.96	9.608	1.006	96.6	75-125	0			

MS Sample ID: **1303068-01CMS** Units: **mg/Kg** Analysis Date: **3/7/2013 03:54 PM**
Client ID: Run ID: **ICPMS05_130307A** SeqNo: **3133971** Prep Date: **3/5/2013** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	51.91	4.8	48.04	3.766	100	75-125	0			

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

QC BATCH REPORT

Batch ID: **68225** Instrument ID **ICPMS03** Method: **SW6020**

MSD Sample ID: **1303068-01CMSD** Units: **mg/Kg** Analysis Date: **3/7/2013 02:14 PM**
Client ID: Run ID: **ICPMS05_130307A** SeqNo: **3133793** Prep Date: **3/5/2013** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	224.9	1.9	9.503	225.6	-7.79	75-125	282.5	22.7	25	SO
Antimony	8.753	0.95	9.503	0.00997	92	75-125	8.552	2.32	25	
Arsenic	9.969	0.95	9.503	0.382	101	75-125	9.673	3.01	25	
Barium	20.53	0.95	9.503	10.58	105	75-125	21.46	4.44	25	
Beryllium	9.926	0.95	9.503	0.03069	104	75-125	9.527	4.11	25	
Cadmium	9.288	0.95	9.503	0.01965	97.5	75-125	9.151	1.49	25	
Calcium	182700	95	950.3	158400	2570	75-125	184900	1.16	25	SEO
Chromium	9.493	0.95	9.503	0.3215	96.5	75-125	9.415	0.826	25	
Cobalt	9.246	0.95	9.503	0.2517	94.6	75-125	9.43	1.97	25	
Copper	9.986	0.95	9.503	0.9684	94.9	75-125	9.84	1.48	25	
Iron	1044	95	950.3	194.2	89.4	75-125	1080	3.42	25	
Lead	8.984	0.95	9.503	0.1728	92.7	75-125	9.125	1.56	25	
Magnesium	1130	95	950.3	308.8	86.5	75-125	1176	3.94	25	
Manganese	12.36	0.95	9.503	4.642	81.2	75-125	13.11	5.93	25	
Molybdenum	9.099	0.95	9.503	0.04262	95.3	75-125	9.185	0.942	25	
Nickel	9.321	0.95	9.503	0.5383	92.4	75-125	9.342	0.226	25	
Potassium	966.3	95	950.3	54.31	96	75-125	992.5	2.68	25	
Selenium	9.487	0.95	9.503	-0.4423	104	75-125	9.328	1.69	25	
Silver	9.027	0.95	9.503	0.01153	94.9	75-125	9.108	0.898	25	
Sodium	872.3	95	950.3	18.24	89.9	75-125	883.4	1.27	25	
Strontium	367.8	0.95	9.503	311.2	596	75-125	385.2	4.61	25	SEO
Thallium	9.166	0.95	9.503	0.002541	96.4	75-125	9.241	0.823	25	
Tin	9.656	4.8	9.503	0.7072	94.2	75-125	9.695	0.398	25	
Titanium	22.69	0.95	19.01	4.961	93.3	75-125	23.52	3.55	25	
Uranium	8.647	0.95	9.503	0.01818	90.8	75-125	8.655	0.0893	25	
Vanadium	9.73	0.95	9.503	-0.07028	103	75-125	9.45	2.92	25	
Zinc	10.13	0.95	9.503	1.006	96	75-125	10.29	1.56	25	

MSD Sample ID: **1303068-01CMSD** Units: **mg/Kg** Analysis Date: **3/7/2013 03:57 PM**
Client ID: Run ID: **ICPMS05_130307A** SeqNo: **3133972** Prep Date: **3/5/2013** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	54.51	4.8	47.51	3.766	107	75-125	51.91	4.88	25	

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **68225** Instrument ID **ICPMS03** Method: **SW6020**

DUP Sample ID: **1303068-01CDUP** Units: **mg/Kg** Analysis Date: **3/7/2013 01:21 PM**
Client ID: Run ID: **ICPMS03_130307A** SeqNo: **3133676** Prep Date: **3/5/2013** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	203.9	9.7	0	0	0	0-0	225.1	9.89	25	
Calcium	143700	480	0	0	0	0-0	152900	6.17	25	
Strontium	284.9	4.8	0	0	0	0-0	289.4	1.57	25	

DUP Sample ID: **1303068-01CDUP** Units: **mg/Kg** Analysis Date: **3/7/2013 02:07 PM**
Client ID: Run ID: **ICPMS05_130307A** SeqNo: **3133790** Prep Date: **3/5/2013** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	ND	0.97	0	0	0	0-0	0.00997	0	25	
Arsenic	ND	0.97	0	0	0	0-0	0.382	0	25	
Barium	9.096	0.97	0	0	0	0-0	10.58	15.1	25	
Beryllium	ND	0.97	0	0	0	0-0	0.03069	0	25	
Cadmium	ND	0.97	0	0	0	0-0	0.01965	0	25	
Chromium	ND	0.97	0	0	0	0-0	0.3215	0	25	
Cobalt	ND	0.97	0	0	0	0-0	0.2517	0	25	
Copper	ND	0.97	0	0	0	0-0	0.9684	0	25	
Iron	161.6	97	0	0	0	0-0	194.2	18.3	25	
Lead	ND	0.97	0	0	0	0-0	0.1728	0	25	
Magnesium	272	97	0	0	0	0-0	308.8	12.6	25	
Manganese	3.824	0.97	0	0	0	0-0	4.642	19.3	25	
Molybdenum	ND	0.97	0	0	0	0-0	0.04262	0	25	
Nickel	ND	0.97	0	0	0	0-0	0.5383	0	25	
Potassium	ND	97	0	0	0	0-0	54.31	0	25	
Selenium	ND	0.97	0	0	0	0-0	-0.4423	0	25	
Silver	ND	0.97	0	0	0	0-0	0.01153	0	25	
Sodium	ND	97	0	0	0	0-0	18.24	0	25	
Thallium	ND	0.97	0	0	0	0-0	0.002541	0	25	
Tin	ND	4.8	0	0	0	0-0	0.7072	0	25	
Titanium	4.003	0.97	0	0	0	0-0	4.961	21.4	25	
Uranium	ND	0.97	0	0	0		0.01818	0	25	
Vanadium	ND	0.97	0	0	0	0-0	-0.07028	0	25	
Zinc	ND	0.97	0	0	0	0-0	1.006	0	25	

DUP Sample ID: **1303068-01CDUP** Units: **mg/Kg** Analysis Date: **3/7/2013 03:45 PM**
Client ID: Run ID: **ICPMS05_130307A** SeqNo: **3133967** Prep Date: **3/5/2013** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	ND	4.8	0	0	0	0-0	3.766	0	25	

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **68225** Instrument ID **ICPMS03** Method: **SW6020**

The following samples were analyzed in this batch:	1303112-01B

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **68237** Instrument ID **HG02** Method: **SW7471A**

MBLK Sample ID: **GBLKS1-030613-68237** Units: **µg/Kg** Analysis Date: **3/6/2013 12:33 PM**
Client ID: Run ID: **HG02_130306A** SeqNo: **3132140** Prep Date: **3/6/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	3.3								

LCS Sample ID: **GLCSS1-030613-68237** Units: **µg/Kg** Analysis Date: **3/6/2013 12:35 PM**
Client ID: Run ID: **HG02_130306A** SeqNo: **3132141** Prep Date: **3/6/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	355.3	3.3	333.3	0	107	85-115	0			

MS Sample ID: **1303095-01CMS** Units: **µg/Kg** Analysis Date: **3/6/2013 12:41 PM**
Client ID: Run ID: **HG02_130306A** SeqNo: **3132144** Prep Date: **3/6/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	353.3	3.5	352.5	1.414	99.8	85-115	0			

MSD Sample ID: **1303095-01CMSD** Units: **µg/Kg** Analysis Date: **3/6/2013 12:43 PM**
Client ID: Run ID: **HG02_130306A** SeqNo: **3132145** Prep Date: **3/6/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	356	3.5	351.8	1.414	101	85-115	353.3	0.782	20	

DUP Sample ID: **1303095-01CDUP** Units: **µg/Kg** Analysis Date: **3/6/2013 12:39 PM**
Client ID: Run ID: **HG02_130306A** SeqNo: **3132143** Prep Date: **3/6/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	3.5	0	0	0		1.414	0	20	

The following samples were analyzed in this batch: 1303112-01B

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

QC BATCH REPORT

Batch ID: **68217** Instrument ID **SV-5** Method: **SW8270**

MBLK Sample ID: **SBLKS1-130305-68217** Units: **µg/Kg** Analysis Date: **3/5/2013 01:20 PM**

Client ID: Run ID: **SV-5_130305A** SeqNo: **3131680** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	ND	170								
1,2,4-Trichlorobenzene	ND	170								
1,2-Dichlorobenzene	ND	170								
1,2-Diphenylhydrazine	ND	170								
1,3-Dichlorobenzene	ND	170								
1,3-Dinitrobenzene	ND	170								
1,4-Dichlorobenzene	ND	170								
1,4-Naphthoquinone	ND	170								
1-Naphthylamine	ND	170								
2,3,4,6-Tetrachlorophenol	ND	170								
2,4,5-Trichlorophenol	ND	170								
2,4,6-Trichlorophenol	ND	170								
2,4-Dichlorophenol	ND	170								
2,4-Dimethylphenol	ND	170								
2,4-Dinitrophenol	ND	170								
2,4-Dinitrotoluene	ND	170								
2,6-Dichlorophenol	ND	170								
2,6-Dinitrotoluene	ND	170								
2-Acetylaminofluorene	ND	170								
2-Chloronaphthalene	ND	170								
2-Chlorophenol	ND	170								
2-Methylnaphthalene	ND	170								
2-Methylphenol	ND	170								
2-Naphthylamine	ND	170								
2-Nitroaniline	ND	170								
2-Nitrophenol	ND	170								
2-Picoline	ND	170								
3&4-Methylphenol	ND	170								
3,3´-Dichlorobenzidine	ND	170								
3,3´-Dimethylbenzidine	ND	170								
3-Methylcholanthrene	ND	170								
3-Nitroaniline	ND	170								
4,6-Dinitro-2-methylphenol	ND	170								
4-Aminobiphenyl	ND	170								
4-Bromophenyl phenyl ether	ND	170								
4-Chloro-3-methylphenol	ND	170								
4-Chloroaniline	ND	170								
4-Chlorophenyl phenyl ether	ND	170								

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

Batch ID: **68217** Instrument ID **SV-5** Method: **SW8270**

4-Nitroaniline	ND	170
4-Nitrophenol	ND	170
4-Nitroquinoline-1-oxide	ND	170
5-Nitro-o-toluidine	ND	170
7,12-Dimethylbenz(a)anthracene	ND	170
a,a-Dimethylphenethylamine	ND	170
Acenaphthene	ND	170
Acenaphthylene	ND	170
Acetophenone	ND	170
Aniline	ND	170
Anthracene	ND	170
Benzo(a)anthracene	ND	170
Benzo(a)pyrene	ND	170
Benzo(b)fluoranthene	ND	170
Benzo(g,h,i)perylene	ND	170
Benzo(k)fluoranthene	ND	170
Benzyl alcohol	ND	170
Bis(2-chloroethoxy)methane	ND	170
Bis(2-chloroethyl)ether	ND	170
Bis(2-chloroisopropyl)ether	ND	170
Bis(2-ethylhexyl)phthalate	ND	170
Butyl benzyl phthalate	ND	170
Chlorobenzilate	ND	170
Chrysene	ND	170
Diallate	ND	170
Dibenz(a,h)anthracene	ND	170
Dibenzofuran	ND	170
Diethyl phthalate	ND	170
Dimethoate	ND	170
Dimethyl phthalate	ND	170
Di-n-butyl phthalate	ND	170
Di-n-octyl phthalate	ND	170
Diphenylamine	ND	170
Ethyl methanesulfonate	ND	170
Fluoranthene	ND	170
Fluorene	ND	170
Hexachlorobenzene	ND	170
Hexachlorobutadiene	ND	170
Hexachlorocyclopentadiene	ND	170
Hexachloroethane	ND	170
Hexachlorophene	ND	1,700
Hexachloropropene	ND	170
Indeno(1,2,3-cd)pyrene	ND	170

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

Batch ID: **68217** Instrument ID **SV-5** Method: **SW8270**

Isodrin	ND	170					
Isophorone	ND	170					
Isosafrole	ND	170					
Kepone	ND	170					
Methapyrilene	ND	170					
Methyl methanesulfonate	ND	170					
Naphthalene	ND	170					
Nitrobenzene	ND	170					
N-Nitrosodiethylamine	ND	170					
N-Nitrosodimethylamine	ND	170					
N-Nitroso-di-n-butylamine	ND	170					
N-Nitrosodi-n-propylamine	ND	170					
N-Nitrosodiphenylamine	ND	170					
N-Nitrosomethylethylamine	ND	170					
N-Nitrosomorpholine	ND	170					
N-Nitrosopiperidine	ND	170					
N-Nitrosopyrrolidine	ND	170					
O,O,O-Triethylphosphorothioate	ND	170					
o-Toluidine	ND	170					
p-Dimethylaminoazobenzene	ND	170					
Pentachlorobenzene	ND	170					
Pentachloronitrobenzene	ND	170					
Pentachlorophenol	ND	170					
Phenacetin	ND	170					
Phenanthrene	ND	170					
Phenol	ND	170					
p-Phenylenediamine	ND	170					
Pronamide	ND	170					
Pyrene	ND	170					
Pyridine	ND	170					
Safrole	ND	170					
Sym-Trinitrobenzene	ND	170					
Tetraethyldithiopyrophosphate	ND	170					
Thionazin	ND	170					
Surr: 2,4,6-Tribromophenol	3335	170	*3333*	0	*100*	*36-126*	0
Surr: 2-Fluorobiphenyl	3397	170	*3333*	0	*102*	*43-125*	0
Surr: 2-Fluorophenol	2832	170	*3333*	0	*85*	*37-125*	0
Surr: 4-Terphenyl-d14	3577	170	*3333*	0	*107*	*32-125*	0
Surr: Nitrobenzene-d5	3678	170	*3333*	0	*110*	*37-125*	0
Surr: Phenol-d6	3086	170	*3333*	0	*92.6*	*40-125*	0

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **68217** Instrument ID **SV-5** Method: **SW8270**

LCS Sample ID: **SLCSS1-130305-68217** Units: **µg/Kg** Analysis Date: **3/5/2013 01:43 PM**

Client ID: Run ID: **SV-5_130305A** SeqNo: **3131681** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	1481	170	1667	0	88.9	55-120	0			
1,2,4-Trichlorobenzene	1635	170	1667	0	98.1	55-120	0			
1,2-Dichlorobenzene	1680	170	1667	0	101	55-120	0			
1,2-Diphenylhydrazine	1820	170	1667	0	109	55-120	0			
1,3-Dichlorobenzene	1627	170	1667	0	97.6	55-120	0			
1,3-Dinitrobenzene	1610	170	1667	0	96.6	55-120	0			
1,4-Dichlorobenzene	1647	170	1667	0	98.8	55-120	0			
1,4-Naphthoquinone	1528	170	1667	0	91.7	55-120	0			
1-Naphthylamine	459.1	170	1667	0	27.5	40-130	0			S
2,3,4,6-Tetrachlorophenol	3109	170	3333	0	93.3	55-120	0			
2,4,5-Trichlorophenol	3565	170	3333	0	107	55-120	0			
2,4,6-Trichlorophenol	3149	170	3333	0	94.5	55-120	0			
2,4-Dichlorophenol	3422	170	3333	0	103	55-120	0			
2,4-Dimethylphenol	3355	170	3333	0	101	55-125	0			
2,4-Dinitrophenol	2853	170	3333	0	85.6	40-125	0			
2,4-Dinitrotoluene	1735	170	1667	0	104	55-125	0			
2,6-Dichlorophenol	2892	170	3333	0	86.8	55-120	0			
2,6-Dinitrotoluene	1697	170	1667	0	102	55-120	0			
2-Acetylaminofluorene	1678	170	1667	0	101	40-130	0			
2-Chloronaphthalene	1530	170	1667	0	91.8	55-145	0			
2-Chlorophenol	3555	170	3333	0	107	55-120	0			
2-Methylnaphthalene	1741	170	1667	0	104	55-120	0			
2-Methylphenol	3676	170	3333	0	110	55-120	0			
2-Naphthylamine	855.1	170	1667	0	51.3	40-130	0			
2-Nitroaniline	1972	170	1667	0	118	55-130	0			
2-Nitrophenol	3197	170	3333	0	95.9	55-120	0			
2-Picoline	1344	170	1667	0	80.7	40-130	0			
3&4-Methylphenol	5099	170	5000	0	102	55-120	0			
3,3´-Dichlorobenzidine	1697	170	1667	0	102	32-125	0			
3,3´-Dimethylbenzidine	466.3	170	1667	0	28	20-120	0			
3-Methylcholanthrene	1702	170	1667	0	102	55-125	0			
3-Nitroaniline	1480	170	1667	0	88.8	43-120	0			
4,6-Dinitro-2-methylphenol	3115	170	3333	0	93.4	50-130	0			
4-Aminobiphenyl	512.2	170	1667	0	30.7	20-120	0			
4-Bromophenyl phenyl ether	1677	170	1667	0	101	55-120	0			
4-Chloro-3-methylphenol	3729	170	3333	0	112	55-120	0			
4-Chloroaniline	855.1	170	1667	0	51.3	30-120	0			
4-Chlorophenyl phenyl ether	1624	170	1667	0	97.4	55-120	0			

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

Batch ID: **68217**	Instrument ID **SV-5**		Method: **SW8270**				
4-Nitroaniline	1589	170	1667	0	95.3	55-120	0
4-Nitrophenol	3523	170	3333	0	106	50-130	0
4-Nitroquinoline-1-oxide	1265	170	1667	0	75.9	50-150	0
5-Nitro-o-toluidine	957.1	170	1667	0	57.4	40-130	0
7,12-Dimethylbenz(a)anthracene	1638	170	1667	0	98.3	55-120	0
a,a-Dimethylphenethylamine	1344	170	1667	0	80.7	40-130	0
Acenaphthene	1747	170	1667	0	105	55-120	0
Acenaphthylene	1745	170	1667	0	105	55-120	0
Acetophenone	1655	170	1667	0	99.3	54-120	0
Aniline	901.3	170	1667	0	54.1	25-120	0
Anthracene	1721	170	1667	0	103	55-120	0
Benzo(a)anthracene	1691	170	1667	0	101	55-125	0
Benzo(a)pyrene	1808	170	1667	0	108	55-120	0
Benzo(b)fluoranthene	1633	170	1667	0	98	55-125	0
Benzo(g,h,i)perylene	1724	170	1667	0	103	55-120	0
Benzo(k)fluoranthene	1848	170	1667	0	111	55-130	0
Benzyl alcohol	1762	170	1667	0	106	55-120	0
Bis(2-chloroethoxy)methane	1741	170	1667	0	104	55-120	0
Bis(2-chloroethyl)ether	1959	170	1667	0	118	55-120	0
Bis(2-chloroisopropyl)ether	1767	170	1667	0	106	55-120	0
Bis(2-ethylhexyl)phthalate	1772	170	1667	0	106	55-125	0
Butyl benzyl phthalate	1754	170	1667	0	105	55-125	0
Chlorobenzilate	1577	170	1667	0	94.6	55-130	0
Chrysene	1865	170	1667	0	112	55-125	0
Diallate	1775	170	1667	0	107	50-140	0
Dibenz(a,h)anthracene	1776	170	1667	0	107	55-120	0
Dibenzofuran	1725	170	1667	0	104	55-120	0
Diethyl phthalate	1727	170	1667	0	104	55-120	0
Dimethoate	1632	170	1667	0	97.9	40-130	0
Dimethyl phthalate	1710	170	1667	0	103	55-120	0
Di-n-butyl phthalate	1801	170	1667	0	108	55-125	0
Di-n-octyl phthalate	1849	170	1667	0	111	55-130	0
Diphenylamine	1754	170	1667	0	105	55-120	0
Ethyl methanesulfonate	1655	170	1667	0	99.3	55-120	0
Fluoranthene	1723	170	1667	0	103	55-125	0
Fluorene	1713	170	1667	0	103	55-120	0
Hexachlorobenzene	1654	170	1667	0	99.2	55-120	0
Hexachlorobutadiene	1573	170	1667	0	94.4	55-120	0
Hexachlorocyclopentadiene	1406	170	1667	0	84.3	50-120	0
Hexachloroethane	1660	170	1667	0	99.6	55-120	0
Hexachlorophene	4206	1,700	8333	0	50.5	20-125	0
Hexachloropropene	1531	170	1667	0	91.9	55-120	0
Indeno(1,2,3-cd)pyrene	1522	170	1667	0	91.3	55-125	0

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

Batch ID: **68217**	Instrument ID **SV-5**		Method: **SW8270**					
Isodrin	1635	170	1667	0	98.1	55-120	0	
Isophorone	1943	170	1667	0	117	55-120	0	
Isosafrole	1499	170	1667	0	90	45-140	0	
Kepone	250.3	170	1667	0	15	15-110	0	
Methapyrilene	682.1	170	1667	0	40.9	40-130	0	
Methyl methanesulfonate	1707	170	1667	0	102	55-120	0	
Naphthalene	1725	170	1667	0	103	55-120	0	
Nitrobenzene	1857	170	1667	0	111	55-120	0	
N-Nitrosodiethylamine	1459	170	1667	0	87.5	50-130	0	
N-Nitrosodimethylamine	1957	170	1667	0	117	45-120	0	
N-Nitroso-di-n-butylamine	2117	170	1667	0	127	40-130	0	
N-Nitrosodi-n-propylamine	1987	170	1667	0	119	55-120	0	
N-Nitrosodiphenylamine	1754	170	1667	0	105	55-120	0	
N-Nitrosomethylethylamine	1573	170	1667	0	94.4	40-130	0	
N-Nitrosomorpholine	1877	170	1667	0	113	40-130	0	
N-Nitrosopiperidine	1428	170	1667	0	85.7	40-130	0	
N-Nitrosopyrrolidine	1616	170	1667	0	97	40-130	0	
O,O,O-Triethylphosphorothioate	1545	170	1667	0	92.7	40-130	0	
o-Toluidine	607.9	170	1667	0	36.5	30-120	0	
p-Dimethylaminoazobenzene	1508	170	1667	0	90.5	40-130	0	
Pentachlorobenzene	1483	170	1667	0	89	55-120	0	
Pentachloronitrobenzene	1913	170	1667	0	115	55-140	0	
Pentachlorophenol	3192	170	3333	0	95.8	50-135	0	
Phenacetin	1663	170	1667	0	99.8	55-125	0	
Phenanthrene	1725	170	1667	0	104	55-120	0	
Phenol	3507	170	3333	0	105	50-120	0	
p-Phenylenediamine	279.1	170	1667	0	16.7	20-120	0	S
Pronamide	1691	170	1667	0	101	55-125	0	
Pyrene	1716	170	1667	0	103	55-125	0	
Pyridine	1423	170	1667	0	85.4	30-120	0	
Safrole	1550	170	1667	0	93	55-120	0	
Sym-Trinitrobenzene	1724	170	1667	0	103	60-160	0	
Tetraethyldithiopyrophosphate	1484	170	1667	0	89	40-130	0	
Thionazin	1633	170	1667	0	98	40-130	0	
Surr: 2,4,6-Tribromophenol	3270	170	*3333*	0	*98.1*	*36-126*	0	
Surr: 2-Fluorobiphenyl	3400	170	*3333*	0	*102*	*43-125*	0	
Surr: 2-Fluorophenol	3371	170	*3333*	0	*101*	*37-125*	0	
Surr: 4-Terphenyl-d14	3497	170	*3333*	0	*105*	*32-125*	0	
Surr: Nitrobenzene-d5	3835	170	*3333*	0	*115*	*37-125*	0	
Surr: Phenol-d6	3679	170	*3333*	0	*110*	*40-125*	0	

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

QC BATCH REPORT

Batch ID: **68217** Instrument ID **SV-5** Method: **SW8270**

MS Sample ID: **1303095-01DMS** Units: **µg/Kg** Analysis Date: **3/5/2013 02:28 PM**

Client ID: Run ID: **SV-5_130305A** SeqNo: **3131683** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	1379	170	1666	0	82.8	55-120	0			
1,2,4-Trichlorobenzene	1439	170	1666	0	86.4	55-120	0			
1,2-Dichlorobenzene	1501	170	1666	0	90.1	55-120	0			
1,2-Diphenylhydrazine	1742	170	1666	0	105	55-120	0			
1,3-Dichlorobenzene	1401	170	1666	0	84.1	55-120	0			
1,3-Dinitrobenzene	1488	170	1666	0	89.4	55-120	0			
1,4-Dichlorobenzene	1537	170	1666	0	92.3	55-120	0			
1,4-Naphthoquinone	1404	170	1666	0	84.3	55-120	0			
1-Naphthylamine	639.4	170	1666	0	38.4	40-130	0			S
2,3,4,6-Tetrachlorophenol	3304	170	3331	0	99.2	55-120	0			
2,4,5-Trichlorophenol	3341	170	3331	0	100	55-120	0			
2,4,6-Trichlorophenol	3027	170	3331	0	90.9	55-120	0			
2,4-Dichlorophenol	3036	170	3331	0	91.1	55-120	0			
2,4-Dimethylphenol	3001	170	3331	0	90.1	55-125	0			
2,4-Dinitrophenol	2261	170	3331	0	67.9	40-125	0			
2,4-Dinitrotoluene	1555	170	1666	0	93.4	55-125	0			
2,6-Dichlorophenol	2578	170	3331	0	77.4	55-120	0			
2,6-Dinitrotoluene	1550	170	1666	0	93.1	55-120	0			
2-Acetylaminofluorene	1630	170	1666	0	97.9	40-130	0			
2-Chloronaphthalene	1562	170	1666	0	93.8	55-145	0			
2-Chlorophenol	3116	170	3331	0	93.6	55-120	0			
2-Methylnaphthalene	1554	170	1666	0	93.3	55-120	0			
2-Methylphenol	3316	170	3331	0	99.5	55-120	0			
2-Naphthylamine	982.9	170	1666	0	59	40-130	0			
2-Nitroaniline	1712	170	1666	0	103	55-130	0			
2-Nitrophenol	2909	170	3331	0	87.3	55-120	0			
2-Picoline	1155	170	1666	0	69.3	40-130	0			
3&4-Methylphenol	4612	170	4997	0	92.3	55-120	0			
3,3´-Dichlorobenzidine	1714	170	1666	0	103	32-125	0			
3,3´-Dimethylbenzidine	591.9	170	1666	0	35.5	20-120	0			
3-Methylcholanthrene	1617	170	1666	0	97.1	55-125	0			
3-Nitroaniline	1584	170	1666	0	95.1	43-120	0			
4,6-Dinitro-2-methylphenol	2913	170	3331	0	87.5	50-130	0			
4-Aminobiphenyl	696.6	170	1666	0	41.8	20-120	0			
4-Bromophenyl phenyl ether	1625	170	1666	0	97.6	55-120	0			
4-Chloro-3-methylphenol	3447	170	3331	0	103	55-120	0			
4-Chloroaniline	1234	170	1666	0	74.1	30-120	0			
4-Chlorophenyl phenyl ether	1522	170	1666	0	91.4	55-120	0			

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

Batch ID: **68217**	Instrument ID **SV-5**		Method: **SW8270**				
4-Nitroaniline	1476	170	1666	0	88.6	55-120	0
4-Nitrophenol	3075	170	3331	0	92.3	50-130	0
4-Nitroquinoline-1-oxide	1264	170	1666	0	75.9	50-150	0
5-Nitro-o-toluidine	1098	170	1666	0	65.9	40-130	0
7,12-Dimethylbenz(a)anthracene	1584	170	1666	0	95.1	55-120	0
a,a-Dimethylphenethylamine	1489	170	1666	0	89.4	40-130	0
Acenaphthene	1622	170	1666	0	97.4	55-120	0
Acenaphthylene	1637	170	1666	0	98.3	55-120	0
Acetophenone	1548	170	1666	0	92.9	54-120	0
Aniline	1166	170	1666	0	70	25-120	0
Anthracene	1618	170	1666	0	97.1	55-120	0
Benzo(a)anthracene	1608	170	1666	0	96.5	55-125	0
Benzo(a)pyrene	1724	170	1666	0	104	55-120	0
Benzo(b)fluoranthene	1674	170	1666	0	100	55-125	0
Benzo(g,h,i)perylene	1594	170	1666	0	95.7	55-120	0
Benzo(k)fluoranthene	1905	170	1666	0	114	55-130	0
Benzyl alcohol	1600	170	1666	0	96.1	55-120	0
Bis(2-chloroethoxy)methane	1523	170	1666	0	91.4	55-120	0
Bis(2-chloroethyl)ether	1765	170	1666	0	106	55-120	0
Bis(2-chloroisopropyl)ether	1557	170	1666	0	93.5	55-120	0
Bis(2-ethylhexyl)phthalate	1730	170	1666	0	104	55-125	0
Butyl benzyl phthalate	1698	170	1666	0	102	55-125	0
Chlorobenzilate	1527	170	1666	0	91.7	55-130	0
Chrysene	1784	170	1666	0	107	55-125	0
Diallate	1769	170	1666	0	106	50-140	0
Dibenz(a,h)anthracene	1610	170	1666	0	96.7	55-120	0
Dibenzofuran	1618	170	1666	0	97.1	55-120	0
Diethyl phthalate	1626	170	1666	0	97.6	55-120	0
Dimethoate	1464	170	1666	0	87.9	40-130	0
Dimethyl phthalate	1676	170	1666	0	101	55-120	0
Di-n-butyl phthalate	1723	170	1666	0	103	55-125	0
Di-n-octyl phthalate	1824	170	1666	0	109	55-130	0
Diphenylamine	1661	170	1666	0	99.7	55-120	0
Ethyl methanesulfonate	1513	170	1666	0	90.8	55-120	0
Fluoranthene	1621	170	1666	0	97.3	55-125	0
Fluorene	1600	170	1666	0	96	55-120	0
Hexachlorobenzene	1581	170	1666	0	95	55-120	0
Hexachlorobutadiene	1398	170	1666	0	83.9	55-120	0
Hexachlorocyclopentadiene	1218	170	1666	0	73.1	50-120	0
Hexachloroethane	1491	170	1666	0	89.5	55-120	0
Hexachlorophene	4102	1,700	8328	0	49.3	20-125	0
Hexachloropropene	1350	170	1666	0	81.1	55-120	0
Indeno(1,2,3-cd)pyrene	1408	170	1666	0	84.6	55-125	0

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

Batch ID: **68217**	Instrument ID **SV-5**		Method: **SW8270**					
Isodrin	1583	170	1666	0	95.1	55-120	0	
Isophorone	1735	170	1666	0	104	55-120	0	
Isosafrole	1422	170	1666	0	85.4	45-140	0	
Kepone	544	170	1666	0	32.7	15-110	0	
Methapyrilene	ND	170	1666	0	9.11	40-130	0	S
Methyl methanesulfonate	1518	170	1666	0	91.1	55-120	0	
Naphthalene	1522	170	1666	0	91.4	55-120	0	
Nitrobenzene	1587	170	1666	0	95.3	55-120	0	
N-Nitrosodiethylamine	1328	170	1666	0	79.7	50-130	0	
N-Nitrosodimethylamine	1707	170	1666	0	102	45-120	0	
N-Nitroso-di-n-butylamine	1621	170	1666	0	97.3	40-130	0	
N-Nitrosodi-n-propylamine	1911	170	1666	0	115	55-120	0	
N-Nitrosodiphenylamine	1661	170	1666	0	99.7	55-120	0	
N-Nitrosomethylethylamine	1402	170	1666	0	84.2	40-130	0	
N-Nitrosomorpholine	1703	170	1666	0	102	40-130	0	
N-Nitrosopiperidine	1302	170	1666	0	78.1	40-130	0	
N-Nitrosopyrrolidine	1498	170	1666	0	89.9	40-130	0	
O,O,O-Triethylphosphorothioate	1394	170	1666	0	83.7	40-130	0	
o-Toluidine	925.1	170	1666	0	55.5	30-120	0	
p-Dimethylaminoazobenzene	1460	170	1666	0	87.6	40-130	0	
Pentachlorobenzene	1408	170	1666	0	84.6	55-120	0	
Pentachloronitrobenzene	1811	170	1666	0	109	55-140	0	
Pentachlorophenol	2722	170	3331	0	81.7	50-135	0	
Phenacetin	1561	170	1666	0	93.8	55-125	0	
Phenanthrene	1624	170	1666	0	97.5	55-120	0	
Phenol	3883	170	3331	404.3	104	50-120	0	
p-Phenylenediamine	226.2	170	1666	0	13.6	20-120	0	S
Pronamide	1595	170	1666	0	95.8	55-125	0	
Pyrene	1646	170	1666	0	98.8	55-125	0	
Pyridine	1192	170	1666	0	71.6	30-120	0	
Safrole	1372	170	1666	0	82.4	55-120	0	
Sym-Trinitrobenzene	1708	170	1666	0	103	60-160	0	
Tetraethyldithiopyrophosphate	1432	170	1666	0	86	40-130	0	
Thionazin	1571	170	1666	0	94.3	40-130	0	
Surr: 2,4,6-Tribromophenol	3013	170	*3331*	0	*90.5*	*36-126*	0	
Surr: 2-Fluorobiphenyl	3029	170	*3331*	0	*90.9*	*43-125*	0	
Surr: 2-Fluorophenol	2831	170	*3331*	0	*85*	*37-125*	0	
Surr: 4-Terphenyl-d14	3216	170	*3331*	0	*96.6*	*32-125*	0	
Surr: Nitrobenzene-d5	3250	170	*3331*	0	*97.6*	*37-125*	0	
Surr: Phenol-d6	3110	170	*3331*	0	*93.4*	*40-125*	0	

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **68217** Instrument ID **SV-5** Method: **SW8270**

MSD Sample ID: **1303095-01DMSD** Units: **µg/Kg** Analysis Date: **3/5/2013 02:50 PM**

Client ID: Run ID: **SV-5_130305A** SeqNo: **3131684** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	1462	170	1665	0	87.8	55-120	1379	5.79	30	
1,2,4-Trichlorobenzene	1579	170	1665	0	94.8	55-120	1439	9.27	30	
1,2-Dichlorobenzene	1522	170	1665	0	91.4	55-120	1501	1.39	30	
1,2-Diphenylhydrazine	1789	170	1665	0	107	55-120	1742	2.66	30	
1,3-Dichlorobenzene	1549	170	1665	0	93	55-120	1401	10	30	
1,3-Dinitrobenzene	1493	170	1665	0	89.7	55-120	1488	0.3	30	
1,4-Dichlorobenzene	1622	170	1665	0	97.4	55-120	1537	5.39	30	
1,4-Naphthoquinone	1419	170	1665	0	85.2	55-120	1404	1.05	30	
1-Naphthylamine	434.8	170	1665	0	26.1	40-130	639.4	38.1	30	SR
2,3,4,6-Tetrachlorophenol	3324	170	3330	0	99.8	55-120	3304	0.597	30	
2,4,5-Trichlorophenol	3427	170	3330	0	103	55-120	3341	2.55	30	
2,4,6-Trichlorophenol	3013	170	3330	0	90.5	55-120	3027	0.486	30	
2,4-Dichlorophenol	2996	170	3330	0	90	55-120	3036	1.35	30	
2,4-Dimethylphenol	3040	170	3330	0	91.3	55-125	3001	1.28	30	
2,4-Dinitrophenol	2446	170	3330	0	73.5	40-125	2261	7.89	30	
2,4-Dinitrotoluene	1579	170	1665	0	94.9	55-125	1555	1.56	30	
2,6-Dichlorophenol	2788	170	3330	0	83.7	55-120	2578	7.81	30	
2,6-Dinitrotoluene	1569	170	1665	0	94.3	55-120	1550	1.24	30	
2-Acetylaminofluorene	1639	170	1665	0	98.4	40-130	1630	0.538	30	
2-Chloronaphthalene	1484	170	1665	0	89.1	55-145	1562	5.11	30	
2-Chlorophenol	3085	170	3330	0	92.7	55-120	3116	0.999	30	
2-Methylnaphthalene	1551	170	1665	0	93.1	55-120	1554	0.232	30	
2-Methylphenol	3139	170	3330	0	94.3	55-120	3316	5.47	30	
2-Naphthylamine	820	170	1665	0	49.2	40-130	982.9	18.1	30	
2-Nitroaniline	1846	170	1665	0	111	55-130	1712	7.57	30	
2-Nitrophenol	3023	170	3330	0	90.8	55-120	2909	3.82	30	
2-Picoline	1225	170	1665	0	73.6	40-130	1155	5.9	30	
3&4-Methylphenol	3851	170	4995	0	77.1	55-120	4612	18	30	
3,3´-Dichlorobenzidine	1606	170	1665	0	96.5	32-125	1714	6.51	30	
3,3´-Dimethylbenzidine	409	170	1665	0	24.6	20-120	591.9	36.6	30	R
3-Methylcholanthrene	1665	170	1665	0	100	55-125	1617	2.9	30	
3-Nitroaniline	1358	170	1665	0	81.6	43-120	1584	15.4	30	
4,6-Dinitro-2-methylphenol	3192	170	3330	0	95.9	50-130	2913	9.13	30	
4-Aminobiphenyl	828.2	170	1665	0	49.7	20-120	696.6	17.3	30	
4-Bromophenyl phenyl ether	1649	170	1665	0	99	55-120	1625	1.42	30	
4-Chloro-3-methylphenol	3251	170	3330	0	97.6	55-120	3447	5.85	30	
4-Chloroaniline	930.4	170	1665	0	55.9	30-120	1234	28.1	30	
4-Chlorophenyl phenyl ether	1541	170	1665	0	92.6	55-120	1522	1.29	30	

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

Batch ID: **68217** Instrument ID **SV-5** Method: **SW8270**

4-Nitroaniline	1488	170	1665	0	89.4	55-120	1476	0.828	30
4-Nitrophenol	3008	170	3330	0	90.3	50-130	3075	2.19	30
4-Nitroquinoline-1-oxide	1285	170	1665	0	77.2	50-150	1264	1.68	30
5-Nitro-o-toluidine	994	170	1665	0	59.7	40-130	1098	9.92	30
7,12-Dimethylbenz(a)anthracene	1549	170	1665	0	93	55-120	1584	2.22	30
a,a-Dimethylphenethylamine	1589	170	1665	0	95.4	40-130	1489	6.51	30
Acenaphthene	1671	170	1665	0	100	55-120	1622	3	30
Acenaphthylene	1673	170	1665	0	100	55-120	1637	2.19	30
Acetophenone	1653	170	1665	0	99.3	54-120	1548	6.55	30
Aniline	874.2	170	1665	0	52.5	25-120	1166	28.6	30
Anthracene	1657	170	1665	0	99.5	55-120	1618	2.43	30
Benzo(a)anthracene	1611	170	1665	0	96.8	55-125	1608	0.187	30
Benzo(a)pyrene	1736	170	1665	0	104	55-120	1724	0.705	30
Benzo(b)fluoranthene	1672	170	1665	0	100	55-125	1674	0.125	30
Benzo(g,h,i)perylene	1675	170	1665	0	101	55-120	1594	4.93	30
Benzo(k)fluoranthene	1925	170	1665	0	116	55-130	1905	1.03	30
Benzyl alcohol	1459	170	1665	0	87.6	55-120	1600	9.24	30
Bis(2-chloroethoxy)methane	1679	170	1665	0	101	55-120	1523	9.79	30
Bis(2-chloroethyl)ether	1756	170	1665	0	105	55-120	1765	0.478	30
Bis(2-chloroisopropyl)ether	1519	170	1665	0	91.2	55-120	1557	2.49	30
Bis(2-ethylhexyl)phthalate	1803	170	1665	0	108	55-125	1730	4.11	30
Butyl benzyl phthalate	1702	170	1665	0	102	55-125	1698	0.28	30
Chlorobenzilate	1524	170	1665	0	91.5	55-130	1527	0.212	30
Chrysene	1815	170	1665	0	109	55-125	1784	1.73	30
Diallate	1767	170	1665	0	106	50-140	1769	0.135	30
Dibenz(a,h)anthracene	1685	170	1665	0	101	55-120	1610	4.56	30
Dibenzofuran	1626	170	1665	0	97.7	55-120	1618	0.523	30
Diethyl phthalate	1625	170	1665	0	97.6	55-120	1626	0.0145	30
Dimethoate	1536	170	1665	0	92.2	40-130	1464	4.76	30
Dimethyl phthalate	1672	170	1665	0	100	55-120	1676	0.228	30
Di-n-butyl phthalate	1734	170	1665	0	104	55-125	1723	0.622	30
Di-n-octyl phthalate	1800	170	1665	0	108	55-130	1824	1.28	30
Diphenylamine	1706	170	1665	0	102	55-120	1661	2.66	30
Ethyl methanesulfonate	1540	170	1665	0	92.5	55-120	1513	1.78	30
Fluoranthene	1659	170	1665	0	99.6	55-125	1621	2.27	30
Fluorene	1609	170	1665	0	96.6	55-120	1600	0.569	30
Hexachlorobenzene	1614	170	1665	0	97	55-120	1581	2.06	30
Hexachlorobutadiene	1526	170	1665	0	91.7	55-120	1398	8.8	30
Hexachlorocyclopentadiene	1361	170	1665	0	81.8	50-120	1218	11.1	30
Hexachloroethane	1573	170	1665	0	94.5	55-120	1491	5.35	30
Hexachlorophene	4342	1,700	8325	0	52.2	20-125	4102	5.67	30
Hexachloropropene	1517	170	1665	0	91.1	55-120	1350	11.7	30
Indeno(1,2,3-cd)pyrene	1447	170	1665	0	86.9	55-125	1408	2.7	30

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

Batch ID: **68217**	Instrument ID **SV-5**		Method: **SW8270**							
Isodrin	1563	170	1665	0	93.9	55-120	1583	1.27	30	
Isophorone	1639	170	1665	0	98.5	55-120	1735	5.65	30	
Isosafrole	1460	170	1665	0	87.7	45-140	1422	2.61	30	
Kepone	745.1	170	1665	0	44.8	15-110	544	31.2	30	R
Methapyrilene	ND	170	1665	0	9.95	40-130	151.7	0	30	S
Methyl methanesulfonate	1483	170	1665	0	89.1	55-120	1518	2.29	30	
Naphthalene	1581	170	1665	0	95	55-120	1522	3.84	30	
Nitrobenzene	1685	170	1665	0	101	55-120	1587	5.98	30	
N-Nitrosodiethylamine	1233	170	1665	0	74.1	50-130	1328	7.36	30	
N-Nitrosodimethylamine	1874	170	1665	0	113	45-120	1707	9.31	30	
N-Nitroso-di-n-butylamine	1422	170	1665	0	85.4	40-130	1621	13	30	
N-Nitrosodi-n-propylamine	1770	170	1665	0	106	55-120	1911	7.66	30	
N-Nitrosodiphenylamine	1706	170	1665	0	102	55-120	1661	2.66	30	
N-Nitrosomethylethylamine	1437	170	1665	0	86.3	40-130	1402	2.48	30	
N-Nitrosomorpholine	1554	170	1665	0	93.3	40-130	1703	9.2	30	
N-Nitrosopiperidine	1261	170	1665	0	75.7	40-130	1302	3.18	30	
N-Nitrosopyrrolidine	1329	170	1665	0	79.8	40-130	1498	12	30	
O,O,O-Triethylphosphorothioate	1386	170	1665	0	83.2	40-130	1394	0.578	30	
o-Toluidine	676	170	1665	0	40.6	30-120	925.1	31.1	30	R
p-Dimethylaminoazobenzene	1492	170	1665	0	89.6	40-130	1460	2.21	30	
Pentachlorobenzene	1465	170	1665	0	88	55-120	1408	3.96	30	
Pentachloronitrobenzene	1859	170	1665	0	112	55-140	1811	2.61	30	
Pentachlorophenol	2832	170	3330	0	85	50-135	2722	3.97	30	
Phenacetin	1565	170	1665	0	94	55-125	1561	0.219	30	
Phenanthrene	1659	170	1665	0	99.6	55-120	1624	2.16	30	
Phenol	3303	170	3330	404.3	87	50-120	3883	16.1	30	
p-Phenylenediamine	192.3	170	1665	0	11.6	20-120	226.2	16.2	30	S
Pronamide	1643	170	1665	0	98.7	55-125	1595	2.94	30	
Pyrene	1662	170	1665	0	99.8	55-125	1646	1	30	
Pyridine	1399	170	1665	0	84	30-120	1192	16	30	
Safrole	1393	170	1665	0	83.7	55-120	1372	1.53	30	
Sym-Trinitrobenzene	1521	170	1665	0	91.3	60-160	1708	11.6	30	
Tetraethyldithiopyrophosphate	1443	170	1665	0	86.7	40-130	1432	0.782	30	
Thionazin	1555	170	1665	0	93.4	40-130	1571	1.01	30	
Surr: 2,4,6-Tribromophenol	2898	170	*3330*	0	*87*	*36-126*	3013	*3.88*	*30*	
Surr: 2-Fluorobiphenyl	3160	170	*3330*	0	*94.9*	*43-125*	3029	*4.24*	*30*	
Surr: 2-Fluorophenol	2819	170	*3330*	0	*84.6*	*37-125*	2831	*0.435*	*30*	
Surr: 4-Terphenyl-d14	3307	170	*3330*	0	*99.3*	*32-125*	3216	*2.8*	*30*	
Surr: Nitrobenzene-d5	3456	170	*3330*	0	*104*	*37-125*	3250	*6.13*	*30*	
Surr: Phenol-d6	2972	170	*3330*	0	*89.3*	*40-125*	3110	*4.54*	*30*	

The following samples were analyzed in this batch: 1303112-01B

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

QC BATCH REPORT

Batch ID: **R143573** Instrument ID **VOA5** Method: **SW8260**

MBLK Sample ID: **VBLKS1-030513-R143573** Units: **µg/Kg** Analysis Date: **3/5/2013 01:03 PM**

Client ID: Run ID: **VOA5_130305A** SeqNo: **3130465** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,4-Dioxane	ND	100								
2-Butanone	ND	10								
2-Chloro-1,3-butadiene	ND	5.0								
2-Hexanone	ND	10								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	20								
Acetonitrile	ND	50								
Acrolein	ND	20								
Acrylonitrile	ND	10								
Allyl Chloride	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	10								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	10								
Chloroform	ND	5.0								
Chloromethane	ND	10								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Dibromomethane	ND	5.0								
Dichlorodifluoromethane	ND	5.0								
Ethyl methacrylate	ND	5.0								
Ethylbenzene	ND	5.0								

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

QC BATCH REPORT

Batch ID: **R143573** Instrument ID **VOA5** Method: **SW8260**

Isobutyl alcohol	ND	100					
m,p-Xylene	ND	10					
Methacrylonitrile	ND	5.0					
Methyl iodide	ND	10					
Methyl methacrylate	ND	5.0					
Methylene chloride	ND	10					
o-Xylene	ND	5.0					
Pentachloroethane	ND	5.0					
Propionitrile	ND	50					
Styrene	ND	5.0					
Tetrachloroethene	ND	5.0					
Toluene	ND	5.0					
trans-1,2-Dichloroethene	ND	5.0					
trans-1,3-Dichloropropene	ND	5.0					
trans-1,4-Dichloro-2-butene	ND	5.0					
Trichloroethene	ND	5.0					
Trichlorofluoromethane	ND	5.0					
Vinyl acetate	ND	10					
Vinyl chloride	ND	2.0					
Xylenes, Total	ND	15					
1,2-Dichloroethene, Total	ND	10					
Surr: 1,2-Dichloroethane-d4	45.62	0	*50*	0	*91.2*	*70-128*	0
Surr: 4-Bromofluorobenzene	49.49	0	*50*	0	*99*	*73-126*	0
Surr: Dibromofluoromethane	47.89	0	*50*	0	*95.8*	*71-128*	0
Surr: Toluene-d8	51.15	0	*50*	0	*102*	*73-127*	0

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

QC BATCH REPORT

Batch ID: **R143573** Instrument ID **VOA5** Method: **SW8260**

LCS Sample ID: **VLCSS1-030513-R143573** Units: **µg/Kg** Analysis Date: **3/5/2013 11:54 AM**

Client ID: Run ID: **VOA5_130305A** SeqNo: **3130463** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	48.48	5.0	50	0	97	79-121	0			
1,1,1-Trichloroethane	48.03	5.0	50	0	96.1	79-124	0			
1,1,2,2-Tetrachloroethane	51.18	5.0	50	0	102	75-123	0			
1,1,2-Trichloroethane	50.64	5.0	50	0	101	79-120	0			
1,1-Dichloroethane	47.81	5.0	50	0	95.6	75-124	0			
1,1-Dichloroethene	47.02	5.0	50	0	94	80-122	0			
1,2,3-Trichloropropane	50.67	5.0	50	0	101	71-125	0			
1,2-Dibromo-3-chloropropane	53.29	5.0	50	0	107	66-129	0			
1,2-Dibromoethane	49.41	5.0	50	0	98.8	79-120	0			
1,2-Dichloroethane	49.07	5.0	50	0	98.1	73-121	0			
1,2-Dichloropropane	48.22	5.0	50	0	96.4	76-120	0			
1,4-Dioxane	1154	100	1000	0	115	65-132	0			
2-Butanone	108	10	100	0	108	65-130	0			
2-Chloro-1,3-butadiene	49.53	5.0	50	0	99.1	72-125	0			
2-Hexanone	107	10	100	0	107	65-133	0			
4-Methyl-2-pentanone	105.1	10	100	0	105	69-130	0			
Acetone	97.64	20	100	0	97.6	53-142	0			
Acetonitrile	420.4	50	500	0	84.1	59-138	0			
Acrolein	87.53	20	100	0	87.5	56-146	0			
Acrylonitrile	87.68	10	100	0	87.7	60-126	0			
Allyl Chloride	50.87	10	50	0	102	72-129	0			
Benzene	48.05	5.0	50	0	96.1	79-120	0			
Bromodichloromethane	49.29	5.0	50	0	98.6	79-121	0			
Bromoform	47.64	5.0	50	0	95.3	74-122	0			
Bromomethane	46.99	10	50	0	94	68-131	0			
Carbon disulfide	100.9	10	100	0	101	80-124	0			
Carbon tetrachloride	47.93	5.0	50	0	95.9	74-126	0			
Chlorobenzene	50.48	5.0	50	0	101	79-120	0			
Chloroethane	43.72	10	50	0	87.4	76-126	0			
Chloroform	48.1	5.0	50	0	96.2	78-120	0			
Chloromethane	49.45	10	50	0	98.9	69-129	0			
cis-1,2-Dichloroethene	51.13	5.0	50	0	102	80-120	0			
cis-1,3-Dichloropropene	47.66	5.0	50	0	95.3	77-123	0			
Dibromochloromethane	48.42	5.0	50	0	96.8	78-122	0			
Dibromomethane	48.29	5.0	50	0	96.6	78-120	0			
Dichlorodifluoromethane	48.32	5.0	50	0	96.6	57-140	0			
Ethyl methacrylate	50.09	5.0	50	0	100	72-128	0			
Ethylbenzene	49.25	5.0	50	0	98.5	80-122	0			

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

QC BATCH REPORT

Batch ID: **R143573**	Instrument ID **VOA5**		Method: **SW8260**				
Isobutyl alcohol	1043	100	1000	0	104	54-136	0
m,p-Xylene	97.79	10	100	0	97.8	79-122	0
Methacrylonitrile	49.08	5.0	50	0	98.2	69-131	0
Methyl iodide	90.79	10	100	0	90.8	69-131	0
Methyl methacrylate	50.38	5.0	50	0	101	73-122	0
Methylene chloride	43.49	10	50	0	87	70-123	0
o-Xylene	48.57	5.0	50	0	97.1	80-123	0
Pentachloroethane	51.9	5.0	50	0	104	60-140	0
Propionitrile	483.3	50	500	0	96.7	67-135	0
Styrene	47.71	5.0	50	0	95.4	78-124	0
Tetrachloroethene	49.73	5.0	50	0	99.5	80-121	0
Toluene	50.05	5.0	50	0	100	79-120	0
trans-1,2-Dichloroethene	46.93	5.0	50	0	93.9	79-122	0
trans-1,3-Dichloropropene	48.65	5.0	50	0	97.3	77-120	0
trans-1,4-Dichloro-2-butene	49.63	5.0	50	0	99.3	68-128	0
Trichloroethene	48.28	5.0	50	0	96.6	80-121	0
Trichlorofluoromethane	46.14	5.0	50	0	92.3	75-126	0
Vinyl acetate	104.5	10	100	0	104	63-136	0
Vinyl chloride	48.53	2.0	50	0	97.1	76-126	0
Xylenes, Total	146.4	15	150	0	97.6	80-120	0
1,2-Dichloroethene, Total	98.06	10	100	0	98.1	68-122	0
Surr: 1,2-Dichloroethane-d4	52.16	0	*50*	0	*104*	*70-128*	0
Surr: 4-Bromofluorobenzene	50.07	0	*50*	0	*100*	*73-126*	0
Surr: Dibromofluoromethane	50.28	0	*50*	0	*101*	*71-128*	0
Surr: Toluene-d8	49.4	0	*50*	0	*98.8*	*73-127*	0

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **R143573** Instrument ID **VOA5** Method: **SW8260**

MS Sample ID: **1303095-01AMS** Units: **µg/Kg** Analysis Date: **3/5/2013 03:20 PM**

Client ID: Run ID: **VOA5_130305A** SeqNo: **3130912** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	43.02	5.0	50	0	86	79-121	0			
1,1,1-Trichloroethane	43.16	5.0	50	0	86.3	79-124	0			
1,1,2,2-Tetrachloroethane	41.11	5.0	50	0	82.2	75-123	0			
1,1,2-Trichloroethane	43.29	5.0	50	0	86.6	79-120	0			
1,1-Dichloroethane	42.77	5.0	50	0	85.5	75-124	0			
1,1-Dichloroethene	42.65	5.0	50	0	85.3	80-122	0			
1,2,3-Trichloropropane	41.68	5.0	50	0	83.4	71-125	0			
1,2-Dibromo-3-chloropropane	42.23	5.0	50	0	84.5	66-129	0			
1,2-Dibromoethane	41.4	5.0	50	0	82.8	79-120	0			
1,2-Dichloroethane	43.44	5.0	50	0	86.9	73-121	0			
1,2-Dichloropropane	43.03	5.0	50	0	86.1	76-120	0			
1,4-Dioxane	823.8	100	1000	0	82.4	65-132	0			
2-Butanone	80.77	10	100	0	80.8	65-130	0			
2-Chloro-1,3-butadiene	31.56	5.0	50	0	63.1	72-125	0			S
2-Hexanone	81.78	10	100	0	81.8	65-133	0			
4-Methyl-2-pentanone	85	10	100	0	85	69-130	0			
Acetone	78.21	20	100	0	78.2	53-142	0			
Acetonitrile	391.1	50	500	0	78.2	59-138	0			
Acrolein	76.75	20	100	0	76.7	56-146	0			
Acrylonitrile	79.15	10	100	0	79.1	60-126	0			
Allyl Chloride	43.43	10	50	0	86.9	72-129	0			
Benzene	43.81	5.0	50	0	87.6	79-120	0			
Bromodichloromethane	42.56	5.0	50	0	85.1	79-121	0			
Bromoform	39.78	5.0	50	0	79.6	74-122	0			
Bromomethane	46.29	10	50	0	92.6	68-131	0			
Carbon disulfide	93.3	10	100	0	93.3	80-124	0			
Carbon tetrachloride	43.39	5.0	50	0	86.8	74-126	0			
Chlorobenzene	43.94	5.0	50	0	87.9	79-120	0			
Chloroethane	41.96	10	50	0	83.9	76-126	0			
Chloroform	41.82	5.0	50	0	83.6	78-120	0			
Chloromethane	44.56	10	50	0	89.1	69-129	0			
cis-1,2-Dichloroethene	43.87	5.0	50	0	87.7	80-120	0			
cis-1,3-Dichloropropene	42.68	5.0	50	0	85.4	77-123	0			
Dibromochloromethane	41.85	5.0	50	0	83.7	78-122	0			
Dibromomethane	42.17	5.0	50	0	84.3	78-120	0			
Dichlorodifluoromethane	44.3	5.0	50	0	88.6	57-140	0			
Ethyl methacrylate	41.21	5.0	50	0	82.4	72-128	0			
Ethylbenzene	43.77	5.0	50	0	87.5	80-122	0			

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

QC BATCH REPORT

Batch ID: **R143573**	Instrument ID **VOA5**		Method: **SW8260**				
Isobutyl alcohol	852.2	100	1000	0	85.2	54-136	0
m,p-Xylene	86.11	10	100	0	86.1	79-122	0
Methacrylonitrile	39.91	5.0	50	0	79.8	69-131	0
Methyl iodide	79.84	10	100	0	79.8	69-131	0
Methyl methacrylate	40.72	5.0	50	0	81.4	73-122	0
Methylene chloride	45.07	10	50	0	90.1	70-123	0
o-Xylene	42.95	5.0	50	0	85.9	80-123	0
Pentachloroethane	44.19	5.0	50	0	88.4	60-140	0
Propionitrile	386.6	50	500	0	77.3	67-135	0
Styrene	42.24	5.0	50	0	84.5	78-124	0
Tetrachloroethene	45.1	5.0	50	0	90.2	80-121	0
Toluene	44.71	5.0	50	0	89.4	79-120	0
trans-1,2-Dichloroethene	42.74	5.0	50	0	85.5	79-122	0
trans-1,3-Dichloropropene	40.8	5.0	50	0	81.6	77-120	0
trans-1,4-Dichloro-2-butene	41.9	5.0	50	0	83.8	68-128	0
Trichloroethene	44.76	5.0	50	0	89.5	80-121	0
Trichlorofluoromethane	43.59	5.0	50	0	87.2	75-126	0
Vinyl acetate	80.2	10	100	0	80.2	63-136	0
Vinyl chloride	44.35	2.0	50	0	88.7	76-126	0
Xylenes, Total	129.1	15	150	0	86	80-120	0
1,2-Dichloroethene, Total	86.62	10	100	0	86.6	68-122	0
Surr: 1,2-Dichloroethane-d4	50.83	0	*50*	0	*102*	*70-128*	0
Surr: 4-Bromofluorobenzene	50.09	0	*50*	0	*100*	*73-126*	0
Surr: Dibromofluoromethane	49.86	0	*50*	0	*99.7*	*71-128*	0
Surr: Toluene-d8	49.99	0	*50*	0	*100*	*73-127*	0

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **R143573** Instrument ID **VOA5** Method: **SW8260**

MSD Sample ID: **1303095-01AMSD** Units: **µg/Kg** Analysis Date: **3/5/2013 03:43 PM**

Client ID: Run ID: **VOA5_130305A** SeqNo: **3130913** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	43.17	5.0	50	0	86.3	79-121	43.02	0.341	30	
1,1,1-Trichloroethane	40.8	5.0	50	0	81.6	79-124	43.16	5.63	30	
1,1,2,2-Tetrachloroethane	40.84	5.0	50	0	81.7	75-123	41.11	0.658	30	
1,1,2-Trichloroethane	45.33	5.0	50	0	90.7	79-120	43.29	4.6	30	
1,1-Dichloroethane	41.44	5.0	50	0	82.9	75-124	42.77	3.16	30	
1,1-Dichloroethene	40.3	5.0	50	0	80.6	80-122	42.65	5.68	30	
1,2,3-Trichloropropane	41.19	5.0	50	0	82.4	71-125	41.68	1.18	30	
1,2-Dibromo-3-chloropropane	39.63	5.0	50	0	79.3	66-129	42.23	6.36	30	
1,2-Dibromoethane	42.3	5.0	50	0	84.6	79-120	41.4	2.16	30	
1,2-Dichloroethane	41.98	5.0	50	0	84	73-121	43.44	3.43	30	
1,2-Dichloropropane	40.91	5.0	50	0	81.8	76-120	43.03	5.06	30	
1,4-Dioxane	933	100	1000	0	93.3	65-132	823.8	12.4	30	
2-Butanone	77.97	10	100	0	78	65-130	80.77	3.52	30	
2-Chloro-1,3-butadiene	49.62	5.0	50	0	99.2	72-125	31.56	44.5	30	R
2-Hexanone	84.96	10	100	0	85	65-133	81.78	3.82	30	
4-Methyl-2-pentanone	91.38	10	100	0	91.4	69-130	85	7.23	30	
Acetone	82.55	20	100	0	82.6	53-142	78.21	5.39	30	
Acetonitrile	370.8	50	500	0	74.2	59-138	391.1	5.34	30	
Acrolein	75.3	20	100	0	75.3	56-146	76.75	1.91	30	
Acrylonitrile	83.31	10	100	0	83.3	60-126	79.15	5.12	30	
Allyl Chloride	42.75	10	50	0	85.5	72-129	43.43	1.57	30	
Benzene	42.63	5.0	50	0	85.3	79-120	43.81	2.73	30	
Bromodichloromethane	41.89	5.0	50	0	83.8	79-121	42.56	1.59	30	
Bromoform	39.94	5.0	50	0	79.9	74-122	39.78	0.403	30	
Bromomethane	41.25	10	50	0	82.5	68-131	46.29	11.5	30	
Carbon disulfide	86.18	10	100	0	86.2	80-124	93.3	7.93	30	
Carbon tetrachloride	43.08	5.0	50	0	86.2	74-126	43.39	0.72	30	
Chlorobenzene	44.39	5.0	50	0	88.8	79-120	43.94	1.02	30	
Chloroethane	40.97	10	50	0	81.9	76-126	41.96	2.38	30	
Chloroform	40.83	5.0	50	0	81.7	78-120	41.82	2.4	30	
Chloromethane	43.06	10	50	0	86.1	69-129	44.56	3.43	30	
cis-1,2-Dichloroethene	41.73	5.0	50	0	83.5	80-120	43.87	5.02	30	
cis-1,3-Dichloropropene	41.7	5.0	50	0	83.4	77-123	42.68	2.33	30	
Dibromochloromethane	41.94	5.0	50	0	83.9	78-122	41.85	0.205	30	
Dibromomethane	42.06	5.0	50	0	84.1	78-120	42.17	0.246	30	
Dichlorodifluoromethane	43.18	5.0	50	0	86.4	57-140	44.3	2.56	30	
Ethyl methacrylate	42.09	5.0	50	0	84.2	72-128	41.21	2.12	30	
Ethylbenzene	43.84	5.0	50	0	87.7	80-122	43.77	0.144	30	

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

QC BATCH REPORT

Batch ID: **R143573**	Instrument ID **VOA5**		Method: **SW8260**						
Isobutyl alcohol	832.1	100	1000	0	83.2	54-136	852.2	2.39	30
m,p-Xylene	86.13	10	100	0	86.1	79-122	86.11	0.0254	30
Methacrylonitrile	39.9	5.0	50	0	79.8	69-131	39.91	0.0232	30
Methyl iodide	80.46	10	100	0	80.5	69-131	79.84	0.774	30
Methyl methacrylate	41.64	5.0	50	0	83.3	73-122	40.72	2.25	30
Methylene chloride	44.42	10	50	0	88.8	70-123	45.07	1.45	30
o-Xylene	43.54	5.0	50	0	87.1	80-123	42.95	1.35	30
Pentachloroethane	38.58	5.0	50	0	77.2	60-140	44.19	13.6	30
Propionitrile	389.2	50	500	0	77.8	67-135	386.6	0.681	30
Styrene	42.43	5.0	50	0	84.9	78-124	42.24	0.442	30
Tetrachloroethene	47.3	5.0	50	0	94.6	80-121	45.1	4.77	30
Toluene	44.74	5.0	50	0	89.5	79-120	44.71	0.0741	30
trans-1,2-Dichloroethene	40.12	5.0	50	0	80.2	79-122	42.74	6.32	30
trans-1,3-Dichloropropene	41.93	5.0	50	0	83.9	77-120	40.8	2.73	30
trans-1,4-Dichloro-2-butene	42.05	5.0	50	0	84.1	68-128	41.9	0.36	30
Trichloroethene	44.4	5.0	50	0	88.8	80-121	44.76	0.794	30
Trichlorofluoromethane	41.58	5.0	50	0	83.2	75-126	43.59	4.73	30
Vinyl acetate	72.07	10	100	0	72.1	63-136	80.2	10.7	30
Vinyl chloride	42.26	2.0	50	0	84.5	76-126	44.35	4.84	30
Xylenes, Total	129.7	15	150	0	86.4	80-120	129.1	0.469	30
1,2-Dichloroethene, Total	81.85	10	100	0	81.9	68-122	86.62	5.66	30
Surr: 1,2-Dichloroethane-d4	48.19	0	*50*	0	*96.4*	*70-128*	50.83	*5.33*	*30*
Surr: 4-Bromofluorobenzene	50.01	0	*50*	0	*100*	*73-126*	50.09	*0.144*	*30*
Surr: Dibromofluoromethane	47.93	0	*50*	0	*95.9*	*71-128*	49.86	*3.94*	*30*
Surr: Toluene-d8	51.45	0	*50*	0	*103*	*73-127*	49.99	*2.87*	*30*

The following samples were analyzed in this batch: 1303112-01A

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

Client: Environmental Resources Management
Work Order: 1303112
Project: ASARCO 0118148-45

QC BATCH REPORT

Batch ID: **R143667** Instrument ID **Balance1** Method: **SW3550** **(Dissolve)**

DUP Sample ID: **1303026-01CDUP** Units: **wt%** Analysis Date: **3/5/2013 05:25 PM**

Client ID: Run ID: **BALANCE1_130305E** SeqNo: **3132464** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	15.19	0.010	0	0	0	0-0	14.91	1.82	20	

The following samples were analyzed in this batch: 1303112-01B

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

ALS Environmental

Date: 07-Mar-13

Client: Environmental Resources Management
Project: ASARCO 0118148-45
WorkOrder: **1303112**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	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

Acronym	Description
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

Units Reported	Description
mg/Kg-dry	Milligrams per Kilogram - Dry weight corrected
wt%	

ALS Environmental

Sample Receipt Checklist

Client Name: **ERMSW-HOU** Date/Time Received: **05-Mar-13 07:00**

Work Order: **1303112** Received by: **JBA**

Checklist completed by Johnnie B. Allen (eSignature) 05-Mar-13 (Date) Reviewed by: Bernadette A. Fini (eSignature) 05-Mar-13 (Date)

Matrices: soil
Carrier name: FedEx First Overnight

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.5 C/uc	IR 1	
Cooler(s)/Kit(s):	Foam		
Date/Time sample(s) sent to storage:	3/5/13 07:22		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

☑ ALS Laboratory Group
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

Chain of Custody Form

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1303112

ERMSW-HOU: Environmental Resources Management

Project: ASARCO 0118148-45

ALS Project Manager:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order	0118148	Project Name	ASARCO	A	Appendix IX Volatiles by SW8260
Work Order	ASARCO	Project Number	0118148-45	B	Appendix IX Semivolatiles by 8270
Company Name	ERM	Bill To Company	ERM	C	ICP Metals by SW6020
Send Report To	Amy McDonald	Invoice Attn.	Amy McDonald	D	Hg by Method SW7471A
Address	15810 Park Ten Place, Ste 300	Address	15810 Park Ten Place, Ste 300	E	Texas TPH by TX1005
				F	PCBs by SW8082
City/State/Zip	Houston, TX 77084	City/State/Zip	Houston, TX 77084	G	Pesticides by SW8081
Phone	281.600.1070	Phone	281.600.1070	H	Herbicides by SW8151
Fax	281.600.1001	Fax	281.600.1001	I	
e-Mail Address	Amy.McDonald@erm.com	e-Mail Address	amy.mcdonald@erm.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	CEMEX SOIL	03/04/13	4:10 PM	Soil	-	3	X	X	X	X	X	X	X	X			
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

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Sampler(s): Please Print & Sign
ALBERT GARCIA

Shipment Method: FEDEX

Required Turnaround Time: ☑ Other ____ ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date: 3/4/13	Time: 5:10PM	Received by:	3/5/13
Relinquished by:	Date:	Time:	Received by (Laboratory):	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Notes: 0700 3-Day Turnaround Time

Cooler Temp.

QC Package: (Check Box Below)

X	Level II: Standard QC		TRRP-Checklist
	Level III: Std QC + Raw Data		TRRP Level IV
	Level IV: SW846 CLP-Like		
	Other: ____		

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

FedEx Express **NEW** Package / US Airbill

FedEx Tracking Number 8025 1756 0003

Form ID No. 0200

REV 8/08 RRD

1 From

Date 3/4/13

Sender's Name ALBERT GARCIA Phone 713 397-1542

Company ERM

Address 2301 W. Resources Dr. Dept/Floor/Suite/Room

City El Paso State TX ZIP 79922

2 Your Internal Billing Reference

3 To

Recipient's Name ALS Laboratory Group Phone 281 530-5656

Company ALS

Address 10450 Stanchiff Rd. #210

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept/Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City Houston State TX ZIP 77099

HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

8025 1756 0003

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs.

For packages over 150 lbs., use FedEx Express Freight US.

Next Business Day

- [X] FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available

2 or 3 Business Days

- [ ] FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

- [ ] FedEx Envelope*
- [ ] FedEx Pak*
- [ ] FedEx Box
- [ ] FedEx Tube
- [ ] Other

6 Special Handling and Delivery Signature Options

- [ ] SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
- [ ] Indirect Signature — If no one is available at recipient address, someone at a neighboring address may sign for delivery. Fee applies for residential deliveries only.

Does this shipment contain dangerous goods?

One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender — Acct. No. in Section 1 will be billed
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash

Total Packages ____ Total Weight ____ lbs. Credit Card Auth. ____

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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Part # 156297-435 RIT2 01/13 **

FedEx FIRST OVERNIGHT

Delivery Address 10450 STANCLIFF RD

8025 1756 0003

TRACEANALYSIS, INC.

CUSTODY SEAL

Date 3/4

Signature

3/13

4/5/13