22-Mar-2011

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

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

Re: El Paso Smelter Work Order: **1103221**

Dear Marla,

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

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

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

The total number of pages in this report is 32.

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

Sincerely,

JayLynn F Thibault

Electronically approved by: Glenda H. Ramos

JayLynn F Thibault
Project Manager

Certificate No: TX: T104704231-10-3

ALS Environmental

Date: 22-Mar-11

Client: Malcolm Pirnie
Project: El Paso Smelter
Work Order: **1103221**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1103221-01	QA030711	Water		3/7/2011 07:30	3/8/2011 09:00	☐

Client: Malcolm Pirnie
Project: El Paso Smelter
Work Order: 1103221

Case Narrative

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

Batch R106498 Nitrate (sample 1103221-01) MS recovery out of control limits.

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

ALS Environmental

Date: *22-Mar-11*

Client: Malcolm Pirnie
Project: El Paso Smelter
Sample ID: QA030711
Collection Date: 3/7/2011 07:30 AM

Work Order: 1103221
Lab ID: 1103221-01
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
DISSOLVED MERCURY		Method: **SW7470**			Prep: SW7470 / 3/11/11		Analyst: **JCJ**
Mercury	**0.0000590**	J	**0.000042**	**0.000200**	**mg/L**	1	3/11/2011 16:50
MERCURY		Method: **SW7470**			Prep: SW7470 / 3/14/11		Analyst: **JCJ**
Mercury	**0.0000920**	J	**0.000042**	**0.000200**	**mg/L**	1	3/14/2011 20:34
DISSOLVED METALS		Method: **SW6020**			Prep: SW3010A / 3/18/11		Analyst: **ALR**
Antimony	**0.0433**		**0.00050**	**0.00500**	**mg/L**	1	3/22/2011 02:29
Arsenic	**1.46**		**0.00090**	**0.00500**	**mg/L**	1	3/22/2011 02:29
Barium	**0.0424**		**0.00070**	**0.00500**	**mg/L**	1	3/22/2011 02:29
Cadmium	U		0.00060	0.00200	mg/L	1	3/22/2011 02:29
Chromium	**0.00188**	J	**0.00060**	**0.00500**	**mg/L**	1	3/22/2011 02:29
Cobalt	U		0.00050	0.00500	mg/L	1	3/22/2011 02:29
Copper	**0.00146**	J	**0.00050**	**0.00500**	**mg/L**	1	3/22/2011 02:29
Iron	U		0.036	0.200	mg/L	1	3/22/2011 02:29
Lead	U		0.00040	0.00500	mg/L	1	3/22/2011 02:29
Molybdenum	**0.637**		**0.00060**	**0.00500**	**mg/L**	1	3/22/2011 02:29
Nickel	U		0.0014	0.00500	mg/L	1	3/22/2011 02:29
Selenium	**0.194**		**0.0025**	**0.00500**	**mg/L**	1	3/22/2011 02:29
Thallium	**0.0174**		**0.00080**	**0.00200**	**mg/L**	1	3/22/2011 02:29
Zinc	**0.00368**	J	**0.0025**	**0.00500**	**mg/L**	1	3/22/2011 02:29
METALS		Method: **SW6020**			Prep: SW3010A / 3/17/11		Analyst: **ALR**
Aluminum	**0.0310**		**0.0037**	**0.0100**	**mg/L**	1	3/18/2011 19:39
Antimony	**0.0422**		**0.00050**	**0.00500**	**mg/L**	1	3/18/2011 19:39
Arsenic	**1.39**		**0.00090**	**0.00500**	**mg/L**	1	3/18/2011 19:39
Barium	**0.0400**		**0.00070**	**0.00500**	**mg/L**	1	3/18/2011 19:39
Cadmium	U		0.00060	0.00200	mg/L	1	3/18/2011 19:39
Calcium	**148**		**0.050**	**0.500**	**mg/L**	1	3/18/2011 19:39
Chromium	**0.00241**	J	**0.00060**	**0.00500**	**mg/L**	1	3/18/2011 19:39
Cobalt	U		0.00050	0.00500	mg/L	1	3/18/2011 19:39
Copper	**0.00187**	J	**0.00050**	**0.00500**	**mg/L**	1	3/18/2011 19:39
Iron	U		0.036	0.200	mg/L	1	3/18/2011 19:39
Lead	**0.000691**	J	**0.00040**	**0.00500**	**mg/L**	1	3/18/2011 19:39
Magnesium	**65.5**		**0.039**	**0.200**	**mg/L**	1	3/18/2011 19:39
Manganese	**0.00178**	J	**0.00080**	**0.00500**	**mg/L**	1	3/18/2011 19:39
Molybdenum	**0.637**		**0.00060**	**0.00500**	**mg/L**	1	3/18/2011 19:39
Nickel	U		0.0014	0.00500	mg/L	1	3/18/2011 19:39
Potassium	**30.8**		**0.10**	**0.200**	**mg/L**	1	3/18/2011 19:39
Selenium	**0.174**		**0.0025**	**0.00500**	**mg/L**	1	3/18/2011 19:39
Sodium	**741**		**10**	**20.0**	**mg/L**	100	3/21/2011 16:33

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

ALS Environmental

Date: *22-Mar-11*

Client: Malcolm Pirnie
Project: El Paso Smelter
Sample ID: QA030711
Collection Date: 3/7/2011 07:30 AM

Work Order: 1103221
Lab ID: 1103221-01
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
Thallium	**0.0158**		**0.00080**	**0.00200**	**mg/L**	1	3/18/2011 19:39
Zinc	**0.0165**		**0.0025**	**0.00500**	**mg/L**	1	3/18/2011 19:39
ANIONS		Method: **E300**					Analyst: **TDW**
Chloride	**266**		**10.0**	**25.0**	**mg/L**	50	3/10/2011 13:27
Fluoride	**2.44**		**0.0500**	**0.100**	**mg/L**	1	3/8/2011 17:01
Nitrogen, Nitrate (As N)	**9.84**		**0.0300**	**0.100**	**mg/L**	1	3/8/2011 17:01
Nitrogen, Nitrite (As N)	U		0.0300	0.100	mg/L	1	3/8/2011 17:01
Sulfate	**974**		**25.0**	**25.0**	**mg/L**	50	3/10/2011 13:27
Nitrate/Nitrite (as N)	**9.84**		**0.0300**	**0.100**	**mg/L**	1	3/8/2011 17:01
Surr: Selenate (surr)	*107*			*85-115*	*%REC*	1	3/8/2011 17:01
Surr: Selenate (surr)	*106*			*85-115*	*%REC*	50	3/10/2011 13:27
ALKALINITY		Method: **SM2320B**					Analyst: **DM**
Alkalinity, Total (As CaCO3)	**367**		**2.0**	**5.00**	**mg/L**	1	3/18/2011 13:00
SULFIDE		Method: **SM4500 S2-F**					Analyst: **JKP**
Sulfide	U		0.50	1.00	mg/L	1	3/14/2011 11:00
TOTAL DISSOLVED SOLIDS		Method: **M2540C**					Analyst: **JKP**
Total Dissolved Solids (Residue, Filterable)	**2,690**		**5.0**	**10.0**	**mg/L**	1	3/10/2011 11:00
TOTAL ORGANIC CARBON		Method: **SM5310C**					Analyst: **JKP**
Organic Carbon, Total	**3.27**		**0.10**	**0.500**	**mg/L**	1	3/13/2011 00:14
TOTAL SUSPENDED SOLIDS		Method: **M2540D**					Analyst: **JKP**
Suspended Solids (Residue, Non-Filterable)	**2.00**		**2.00**	**2.00**	**mg/L**	1	3/10/2011 12:00

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

Work Order: 1103221
Client: Malcolm Pirnie
Project: El Paso Smelter

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
Batch ID 50736	**Test Name:** Dissolved Mercury					
1103221-01B	QA030711	Water	3/7/2011 7:30:00 AM		3/11/2011 10:37 AM	3/11/2011 04:50 PM
Batch ID 50786	**Test Name:** Mercury					
1103221-01A	QA030711	Water	3/7/2011 7:30:00 AM		3/14/2011 01:57 PM	3/14/2011 08:34 PM
Batch ID 50882	**Test Name:** Metals					
1103221-01A	QA030711	Water	3/7/2011 7:30:00 AM		3/17/2011 03:00 PM	3/18/2011 07:39 PM
					3/17/2011 03:00 PM	3/21/2011 04:33 PM
Batch ID 50927	**Test Name:** Dissolved Metals					
1103221-01B	QA030711	Water	3/7/2011 7:30:00 AM		3/18/2011 09:00 PM	3/22/2011 02:29 AM
Batch ID R106498	**Test Name:** Anions					
1103221-01C	QA030711	Water	3/7/2011 7:30:00 AM			3/8/2011 05:01 PM
Batch ID R106635	**Test Name:** Total Suspended Solids					
1103221-01C	QA030711	Water	3/7/2011 7:30:00 AM			3/10/2011 12:00 PM
Batch ID R106646	**Test Name:** Anions					
1103221-01C	QA030711	Water	3/7/2011 7:30:00 AM			3/10/2011 01:27 PM
Batch ID R106677	**Test Name:** Total Dissolved Solids					
1103221-01C	QA030711	Water	3/7/2011 7:30:00 AM			3/10/2011 11:00 AM
Batch ID R106735	**Test Name:** Total Organic Carbon					
1103221-01D	QA030711	Water	3/7/2011 7:30:00 AM			3/13/2011 12:14 AM

Work Order: 1103221
Client: Malcolm Pirnie
Project: El Paso Smelter

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
Batch ID R106866 **Test Name:** Sulfide						
1103221-01E	QA030711	Water	3/7/2011 7:30:00 AM			3/14/2011 11:00 AM
Batch ID R107026 **Test Name:** Alkalinity						
1103221-01C	QA030711	Water	3/7/2011 7:30:00 AM			3/18/2011 01:00 PM

ALS Environmental

Date: 22-Mar-11

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

MBLK Sample ID: **GBLKW2-031111-50736** Units: **mg/L** Analysis Date: **3/11/2011 04:46 PM**
Client ID: Run ID: **MERCURY_110311A** SeqNo: **2309539** Prep Date: **3/11/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.00020								

LCS Sample ID: **GLCSW2-031111-50736** Units: **mg/L** Analysis Date: **3/11/2011 04:48 PM**
Client ID: Run ID: **MERCURY_110311A** SeqNo: **2309540** Prep Date: **3/11/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00455	0.00020	0.005	0	91	80-120	0			

MS Sample ID: **1103221-01BMS** Units: **mg/L** Analysis Date: **3/11/2011 04:54 PM**
Client ID: **QA030711** Run ID: **MERCURY_110311A** SeqNo: **2309543** Prep Date: **3/11/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00455	0.00020	0.005	0.000059	89.8	80-120	0			

MSD Sample ID: **1103221-01BMSD** Units: **mg/L** Analysis Date: **3/11/2011 04:56 PM**
Client ID: **QA030711** Run ID: **MERCURY_110311A** SeqNo: **2309544** Prep Date: **3/11/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00467	0.00020	0.005	0.000059	92.2	80-120	0.00455	2.6	20	

DUP Sample ID: **1103221-01BDUP** Units: **mg/L** Analysis Date: **3/11/2011 04:52 PM**
Client ID: **QA030711** Run ID: **MERCURY_110311A** SeqNo: **2309542** Prep Date: **3/11/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00006	0.00020	0	0	0	-0 0	0.000059	0	20	J

The following samples were analyzed in this batch: 1103221-01B

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

MBLK Sample ID: **GBLKW3-031411-50786** Units: **mg/L** Analysis Date: **3/14/2011 07:41 PM**
Client ID: Run ID: **MERCURY_110314A** SeqNo: **2311934** Prep Date: **3/14/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.00020								

LCS Sample ID: **GLCSW3-031411-50786** Units: **mg/L** Analysis Date: **3/14/2011 07:43 PM**
Client ID: Run ID: **MERCURY_110314A** SeqNo: **2311935** Prep Date: **3/14/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00517	0.00020	0.005	0	103	85-115	0			

MS Sample ID: **1103355-02BMS** Units: **mg/L** Analysis Date: **3/14/2011 07:49 PM**
Client ID: Run ID: **MERCURY_110314A** SeqNo: **2311938** Prep Date: **3/14/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00516	0.00020	0.005	0.000009	103	85-115	0			

MSD Sample ID: **1103355-02BMSD** Units: **mg/L** Analysis Date: **3/14/2011 07:51 PM**
Client ID: Run ID: **MERCURY_110314A** SeqNo: **2311939** Prep Date: **3/14/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00515	0.00020	0.005	0.000009	103	85-115	0.00516	0.194	20	

DUP Sample ID: **1103355-02BDUP** Units: **mg/L** Analysis Date: **3/14/2011 07:47 PM**
Client ID: Run ID: **MERCURY_110314A** SeqNo: **2311937** Prep Date: **3/14/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.00020	0	0	0	-0 0	0.000009	0	20	

The following samples were analyzed in this batch: 1103221-01A

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

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

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

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

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

LCS Sample ID: **MLCSW1-031711-50882** Units: **mg/L** Analysis Date: **3/17/2011 04:04 PM**

Client ID: Run ID: **ICPMS03_110317A** SeqNo: **2316351** Prep Date: **3/17/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09413	0.010	0.1	0	94.1	80-120	0			
Antimony	0.048	0.0050	0.05	0	96	80-120	0			
Arsenic	0.04914	0.0050	0.05	0	98.3	80-120	0			
Barium	0.04839	0.0050	0.05	0	96.8	80-120	0			
Cadmium	0.048	0.0020	0.05	0	96	80-120	0			
Calcium	4.801	0.50	5	0	96	80-120	0			
Chromium	0.04751	0.0050	0.05	0	95	80-120	0			
Cobalt	0.04796	0.0050	0.05	0	95.9	80-120	0			
Copper	0.04845	0.0050	0.05	0	96.9	80-120	0			
Iron	4.707	0.20	5	0	94.1	80-120	0			
Lead	0.04828	0.0050	0.05	0	96.6	80-120	0			
Magnesium	4.778	0.20	5	0	95.6	80-120	0			
Manganese	0.04875	0.0050	0.05	0	97.5	80-120	0			
Molybdenum	0.04561	0.0050	0.05	0	91.2	80-120	0			
Nickel	0.04811	0.0050	0.05	0	96.2	80-120	0			
Potassium	4.654	0.20	5	0	93.1	80-120	0			
Selenium	0.04927	0.0050	0.05	0	98.5	80-120	0			
Sodium	4.78	0.20	5	0	95.6	80-120	0			
Thallium	0.04981	0.0020	0.05	0	99.6	80-120	0			
Zinc	0.05237	0.0050	0.05	0	105	80-120	0			

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

MS Sample ID: **1103448-09BMS** Units: **mg/L** Analysis Date: **3/17/2011 03:38 PM**

Client ID: Run ID: **ICPMS03_110317A** SeqNo: **2316304** Prep Date: **3/17/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1183	0.010	0.1	0.0173	101	80-120	0			
Antimony	0.04852	0.0050	0.05	0.0005627	95.9	80-120	0			
Arsenic	0.04877	0.0050	0.05	0.0001134	97.3	80-120	0			
Barium	0.04989	0.0050	0.05	0.0009804	97.8	80-120	0			
Cadmium	0.04868	0.0020	0.05	0.00007066	97.2	80-120	0			
Calcium	5.495	0.50	5	0.5168	99.6	80-120	0			
Chromium	0.05118	0.0050	0.05	0.0003406	102	80-120	0			
Cobalt	0.04914	0.0050	0.05	-5.261E-05	98.4	80-120	0			
Copper	0.05103	0.0050	0.05	0.001571	98.9	80-120	0			
Iron	4.762	0.20	5	0.01915	94.9	80-120	0			
Lead	0.05035	0.0050	0.05	0.001092	98.5	80-120	0			
Magnesium	5.109	0.20	5	0.1275	99.6	80-120	0			
Manganese	0.04958	0.0050	0.05	0.004259	90.6	80-120	0			
Molybdenum	0.04692	0.0050	0.05	0.0002797	93.3	80-120	0			
Nickel	0.05016	0.0050	0.05	0.001121	98.1	80-120	0			
Potassium	6.5	0.20	5	1.599	98	80-120	0			
Selenium	0.04945	0.0050	0.05	0.0001361	98.6	80-120	0			
Sodium	6.314	0.20	5	1.358	99.1	80-120	0			
Thallium	0.04974	0.0020	0.05	0.0004352	98.6	80-120	0			
Zinc	0.06356	0.0050	0.05	0.02535	76.4	80-120	0			S

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

MSD Sample ID: **1103448-09BMSD** Units: **mg/L** Analysis Date: **3/17/2011 03:43 PM**

Client ID: Run ID: **ICPMS03_110317A** SeqNo: **2316305** Prep Date: **3/17/2011** DF: **1**

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

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

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

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

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

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

PDS Sample ID: **1103448-09BBS** Units: **mg/L** Analysis Date: **3/17/2011 03:49 PM**

Client ID: Run ID: **ICPMS03_110317A** SeqNo: **2316348** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.106	0.010	0.1	0.0173	88.7	75-125	0			
Antimony	0.09588	0.0050	0.1	0.0005627	95.3	75-125	0			
Arsenic	0.09661	0.0050	0.1	0.0001134	96.5	75-125	0			
Barium	0.09677	0.0050	0.1	0.0009804	95.8	75-125	0			
Cadmium	0.09368	0.0020	0.1	0.00007066	93.6	75-125	0			
Calcium	10.08	0.50	10	0.5168	95.6	75-125	0			
Chromium	0.09554	0.0050	0.1	0.0003406	95.2	75-125	0			
Cobalt	0.09524	0.0050	0.1	-5.261E-05	95.3	75-125	0			
Copper	0.09744	0.0050	0.1	0.001571	95.9	75-125	0			
Iron	9.367	0.20	10	0.01915	93.5	75-125	0			
Lead	0.09486	0.0050	0.1	0.001092	93.8	75-125	0			
Magnesium	9.558	0.20	10	0.1275	94.3	75-125	0			
Manganese	0.09909	0.0050	0.1	0.004259	94.8	75-125	0			
Molybdenum	0.0906	0.0050	0.1	0.0002797	90.3	75-125	0			
Nickel	0.09684	0.0050	0.1	0.001121	95.7	75-125	0			
Potassium	10.8	0.20	10	1.599	92	75-125	0			
Selenium	0.1001	0.0050	0.1	0.0001361	100	75-125	0			
Sodium	10.65	0.20	10	1.358	92.9	75-125	0			
Thallium	0.09917	0.0020	0.1	0.0004352	98.7	75-125	0			
Zinc	0.1173	0.0050	0.1	0.02535	92	75-125	0			

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

SD Sample ID: **1103448-09B DIL SX** Units: **mg/L** Analysis Date: **3/17/2011 03:33 PM**

Client ID: Run ID: **ICPMS03_110317A** SeqNo: **2316303** Prep Date: DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Aluminum	0.01894	0.050	0	0	0	-0 0	0.0173	0	10	J
Antimony	U	0.025	0	0	0	-0 0	0.0005627	0	10	
Arsenic	U	0.025	0	0	0	-0 0	0.0001134	0	10	
Barium	U	0.025	0	0	0	-0 0	0.0009804	0	10	
Cadmium	U	0.010	0	0	0	-0 0	0.00007066	0	10	
Calcium	0.3043	2.5	0	0	0	-0 0	0.5168	0	10	J
Chromium	U	0.025	0	0	0	-0 0	0.0003406	0	10	
Cobalt	U	0.025	0	0	0	-0 0	-5.261E-05	0	10	
Copper	U	0.025	0	0	0	-0 0	0.001571	0	10	
Iron	U	1.0	0	0	0	-0 0	0.01915	0	10	
Lead	U	0.025	0	0	0	-0 0	0.001092	0	10	
Magnesium	U	1.0	0	0	0	-0 0	0.1275	0	10	
Manganese	U	0.025	0	0	0	-0 0	0.004259	0	10	
Molybdenum	U	0.025	0	0	0	-0 0	0.0002797	0	10	
Nickel	U	0.025	0	0	0	-0 0	0.001121	0	10	
Potassium	1.462	1.0	0	0	0	-0 0	1.599	8.54	10	
Selenium	U	0.025	0	0	0	-0 0	0.0001361	0	10	
Sodium	1.334	1.0	0	0	0	-0 0	1.358	1.8	10	
Thallium	U	0.010	0	0	0	-0 0	0.0004352	0	10	
Zinc	0.02304	0.025	0	0	0	-0 0	0.02535	9.11	10	J

The following samples were analyzed in this batch: 1103221-01A

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

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

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

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

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

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

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

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

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

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

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

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

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

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

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

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

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

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

PDS Sample ID: **1103158-08FBS** Units: **mg/L** Analysis Date: **3/22/2011 12:02 AM**

Client ID: Run ID: **ICPMS03_110321A** SeqNo: **2319828** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.09723	0.0050	0.1	0.0001582	97.1	75-125	0			
Arsenic	0.103	0.0050	0.1	0.0004655	103	75-125	0			
Barium	0.1275	0.0050	0.1	0.02928	98.2	75-125	0			
Cadmium	0.09991	0.0020	0.1	-0.0001418	100	75-125	0			
Chromium	0.09726	0.0050	0.1	0.000941	96.3	75-125	0			
Cobalt	0.09465	0.0050	0.1	0.0004065	94.2	75-125	0			
Copper	0.1169	0.0050	0.1	0.02499	91.9	75-125	0			
Iron	9.352	0.20	10	-0.03432	93.9	75-125	0			
Lead	0.09646	0.0050	0.1	0.0001914	96.3	75-125	0			
Molybdenum	0.09706	0.0050	0.1	0.003973	93.1	75-125	0			
Nickel	0.1127	0.0050	0.1	0.01963	93.1	75-125	0			
Selenium	0.1059	0.0050	0.1	0.0008977	105	75-125	0			
Thallium	0.1005	0.0020	0.1	0.00009279	100	75-125	0			
Zinc	0.1013	0.0050	0.1	0.003462	97.8	75-125	0			

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

SD Sample ID: **1103158-08F DIL SX** Units: **mg/L** Analysis Date: **3/21/2011 11:46 PM**

Client ID: Run ID: **ICPMS03_110321A** SeqNo: **2319825** Prep Date: DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	U	0.025	0	0	0	-0 0	0.0001582	0	10	
Arsenic	U	0.025	0	0	0	-0 0	0.0004655	0	10	
Barium	0.02894	0.025	0	0	0	-0 0	0.02928	1.18	10	
Cadmium	U	0.010	0	0	0	-0 0	-0.0001418	0	10	
Chromium	U	0.025	0	0	0	-0 0	0.000941	0	10	
Cobalt	U	0.025	0	0	0	-0 0	0.0004065	0	10	
Copper	0.0232	0.025	0	0	0	-0 0	0.02499	0	10	J
Iron	U	1.0	0	0	0	-0 0	-0.03432	0	10	
Lead	U	0.025	0	0	0	-0 0	0.0001914	0	10	
Molybdenum	0.004809	0.025	0	0	0	-0 0	0.003973	0	10	J
Nickel	0.023	0.025	0	0	0	-0 0	0.01963	0	10	J
Selenium	U	0.025	0	0	0	-0 0	0.0008977	0	10	
Thallium	U	0.010	0	0	0	-0 0	0.00009279	0	10	
Zinc	U	0.025	0	0	0	-0 0	0.003462	0	10	

The following samples were analyzed in this batch: 1103221-01B

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

MBLK Sample ID: **WBLKW1-030711-R106498** Units: **mg/L** Analysis Date: **3/8/2011 11:14 AM**
Client ID: Run ID: **ICS2100_110308A** SeqNo: **2305137** Prep Date: DF: **1**

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

LCS Sample ID: **WLCSW1-030711-R106498** Units: **mg/L** Analysis Date: **3/8/2011 11:29 AM**
Client ID: Run ID: **ICS2100_110308A** SeqNo: **2305138** Prep Date: DF: **1**

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

LCSD Sample ID: **WLCSDW1-030711-R106498** Units: **mg/L** Analysis Date: **3/8/2011 11:43 AM**
Client ID: Run ID: **ICS2100_110308A** SeqNo: **2305139** Prep Date: DF: **1**

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

MS Sample ID: **1103002-01EMS** Units: **mg/L** Analysis Date: **3/8/2011 12:41 PM**
Client ID: Run ID: **ICS2100_110308A** SeqNo: **2305143** Prep Date: DF: **10**

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

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

MS Sample ID: **1103221-01CMS** Units: **mg/L** Analysis Date: **3/8/2011 05:16 PM**

Client ID: **QA030711** Run ID: **ICS2100_110308A** SeqNo: **2305188** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.563	0.10	2	2.442	106	80-120	0			
Nitrogen, Nitrate (As N)	12.05	0.10	2	9.838	110	80-120	0			O
Nitrogen, Nitrite (As N)	2.5	0.10	2	0	125	80-120	0			S
Nitrate/Nitrite (as N)	14.55	0.10	4	9.838	118	80-120	0			
Surr: Selenate (surr)	*4.604*	0.10	*5*	0	*92.1*	*85-115*	0			

MSD Sample ID: **1103002-01EMSD** Units: **mg/L** Analysis Date: **3/8/2011 12:56 PM**

Client ID: Run ID: **ICS2100_110308A** SeqNo: **2305144** Prep Date: DF: **10**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	19.58	1.0	20	1.626	89.8	80-120	19.65	0.372	20	
Nitrogen, Nitrate (As N)	21.17	1.0	20	3.329	89.2	80-120	21.41	1.1	20	H
Nitrogen, Nitrite (As N)	20.68	1.0	20	0	103	80-120	20.82	0.67	20	H
Nitrate/Nitrite (as N)	41.85	1.0	40	3.329	96.3	80-120	42.23	0.89	20	H
Surr: Selenate (surr)	*47.72*	1.0	*50*	0	*95.4*	*85-115*	47.86	*0.293*	*20*	

MSD Sample ID: **1103221-01CMSD** Units: **mg/L** Analysis Date: **3/8/2011 05:30 PM**

Client ID: **QA030711** Run ID: **ICS2100_110308A** SeqNo: **2305190** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.397	0.10	2	2.442	97.8	80-120	4.563	3.71	20	
Nitrogen, Nitrate (As N)	11.87	0.10	2	9.838	102	80-120	12.05	1.47	20	O
Nitrogen, Nitrite (As N)	2.249	0.10	2	0	112	80-120	2.5	10.6	20	
Nitrate/Nitrite (as N)	14.12	0.10	4	9.838	107	80-120	14.55	2.98	20	
Surr: Selenate (surr)	*4.718*	0.10	*5*	0	*94.4*	*85-115*	4.604	*2.45*	*20*	

The following samples were analyzed in this batch: 1103221-01C

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R106635** Instrument ID **Balance1** Method: **M2540D**

MBLK Sample ID: **BLANK-R106635** Units: **mg/L** Analysis Date: **3/10/2011 12:00 PM**
Client ID: Run ID: **BALANCE1_110310A** SeqNo: **2309065** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Suspended Solids (Residue, Non-F	U	2.0								

LCS Sample ID: **LCS-R106635** Units: **mg/L** Analysis Date: **3/10/2011 12:00 PM**
Client ID: Run ID: **BALANCE1_110310A** SeqNo: **2309066** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Suspended Solids (Residue, Non-F	88	2.0	100	0	88	78-120	0			

DUP Sample ID: **1103160-02CDUP** Units: **mg/L** Analysis Date: **3/10/2011 12:00 PM**
Client ID: Run ID: **BALANCE1_110310A** SeqNo: **2309055** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Suspended Solids (Residue, Non-F	19.33	2.0	0	0	0	0-0	19.33	0	20	

The following samples were analyzed in this batch: 1103221-01C

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

MBLK Sample ID: **WBLKW1-031011-R106646** Units: **mg/L** Analysis Date: **3/10/2011 11:42 AM**
Client ID: Run ID: **ICS3000_110310A** SeqNo: **2308361** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.50								
Sulfate	U	0.50								
Surr: Selenate (surr)	*5.187*	0.10	*5*	0	*104*	*85-115*	0			

LCS Sample ID: **WLCSW1-031011-R106646** Units: **mg/L** Analysis Date: **3/10/2011 12:03 PM**
Client ID: Run ID: **ICS3000_110310A** SeqNo: **2308362** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.67	0.50	20	0	108	90-110	0			
Sulfate	19.89	0.50	20	0	99.5	90-110	0			
Surr: Selenate (surr)	*5.25*	0.10	*5*	0	*105*	*85-115*	0			

LCSD Sample ID: **WLCSDW1-031011-R106646** Units: **mg/L** Analysis Date: **3/10/2011 12:24 PM**
Client ID: Run ID: **ICS3000_110310A** SeqNo: **2308364** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.68	0.50	20	0	98.4	90-110	21.67	9.65	20	
Sulfate	19.22	0.50	20	0	96.1	90-110	19.89	3.44	20	
Surr: Selenate (surr)	*5.201*	0.10	*5*	0	*104*	*85-115*	5.25	*0.938*	*20*	

MSD Sample ID: **1103176-12AMS** Units: **mg/L** Analysis Date: **3/10/2011 04:16 PM**
Client ID: Run ID: **ICS3000_110310A** SeqNo: **2308379** Prep Date: DF: **10**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1807	5.0	100	1734	73	80-120	0			SEO
Sulfate	15980	5.0	100	0	16000	80-120	0			SE
Surr: Selenate (surr)	*50.5*	1.0	*50*	0	*101*	*85-115*	0			

MSD Sample ID: **1103176-12AMSD** Units: **mg/L** Analysis Date: **3/10/2011 04:37 PM**
Client ID: Run ID: **ICS3000_110310A** SeqNo: **2308380** Prep Date: DF: **10**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1804	5.0	100	1734	70.8	80-120	0			SEO
Sulfate	15960	5.0	100	0	16000	80-120	0			SE
Surr: Selenate (surr)	*50.52*	1.0	*50*	0	*101*	*85-115*	0			

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

MSD Sample ID: **1103162-01CMS** Units: **mg/L** Analysis Date: **3/10/2011 09:53 PM**

Client ID: Run ID: **ICS3000_110310A** SeqNo: **2308395** Prep Date: DF: **10**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	692.5	5.0	100	606.2	86.3	80-120	0			O
Sulfate	430.9	5.0	100	333.5	97.4	80-120	0			
Surr: Selenate (surr)	*52.42*	1.0	*50*	0	*105*	*85-115*	0			

MSD Sample ID: **1103162-01CMSD** Units: **mg/L** Analysis Date: **3/10/2011 10:15 PM**

Client ID: Run ID: **ICS3000_110310A** SeqNo: **2308396** Prep Date: DF: **10**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	694.1	5.0	100	606.2	87.9	80-120	0			O
Sulfate	429.6	5.0	100	333.5	96.1	80-120	0			
Surr: Selenate (surr)	*52.38*	1.0	*50*	0	*105*	*85-115*	0			

The following samples were analyzed in this batch: 1103221-01C

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R106677** Instrument ID **Balance1** Method: **M2540C**

MBLK Sample ID: **BLANK-R106677** Units: **mg/L** Analysis Date: **3/10/2011 11:00 AM**
Client ID: Run ID: **BALANCE1_110310B** SeqNo: **2308962** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	U	10								

LCS Sample ID: **LCS-R106677** Units: **mg/L** Analysis Date: **3/10/2011 11:00 AM**
Client ID: Run ID: **BALANCE1_110310B** SeqNo: **2308963** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	1070	10	1000	0	107	85-115	0			

DUP Sample ID: **1103148-01EDUP** Units: **mg/L** Analysis Date: **3/10/2011 11:00 AM**
Client ID: Run ID: **BALANCE1_110310B** SeqNo: **2308959** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	5000	10	0	0	0	0-0	4915	1.71	20	

The following samples were analyzed in this batch: 1103221-01C

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R106735** Instrument ID **TOC_W** Method: **SM5310C**

MBLK Sample ID: **WBLKW1-031211-R106735** Units: **mg/L** Analysis Date: **3/12/2011 02:37 PM**
Client ID: Run ID: **TOC_W_110312B** SeqNo: **2310080** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	0.284	0.50								J

LCS Sample ID: **WLCSW1-031211-R106735** Units: **mg/L** Analysis Date: **3/12/2011 03:06 PM**
Client ID: Run ID: **TOC_W_110312B** SeqNo: **2310081** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.074	0.50	10	0	90.7	80-120	0			

LCSD Sample ID: **WLCSDW1-03121-R106735** Units: **mg/L** Analysis Date: **3/12/2011 03:35 PM**
Client ID: Run ID: **TOC_W_110312B** SeqNo: **2310082** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.168	0.50	10	0	91.7	80-120	9.074	1.03	20	

MS Sample ID: **1103334-01AZMS** Units: **mg/L** Analysis Date: **3/12/2011 06:28 PM**
Client ID: Run ID: **TOC_W_110312B** SeqNo: **2310088** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	26.99	0.50	10	18.1	88.8	80-120	0			E

MS Sample ID: **1103192-01DMS** Units: **mg/L** Analysis Date: **3/12/2011 10:47 PM**
Client ID: Run ID: **TOC_W_110312B** SeqNo: **2310097** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	17.11	0.50	10	7.632	94.8	80-120	0			

MSD Sample ID: **1103334-01AZMSD** Units: **mg/L** Analysis Date: **3/12/2011 06:57 PM**
Client ID: Run ID: **TOC_W_110312B** SeqNo: **2310089** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	27.84	0.50	10	18.1	97.4	80-120	26.99	3.12	20	E

MSD Sample ID: **1103192-01DMSD** Units: **mg/L** Analysis Date: **3/12/2011 11:16 PM**
Client ID: Run ID: **TOC_W_110312B** SeqNo: **2310098** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	16.83	0.50	10	7.632	92	80-120	17.11	1.64	20	

The following samples were analyzed in this batch: 1103221-01D

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

MBLK Sample ID: **WMB-031411-R106866** Units: **mg/L** Analysis Date: **3/14/2011 11:00 AM**
Client ID: Run ID: **WETCHEM_110314J** SeqNo: **2313034** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	0.8	1.0								J

LCS Sample ID: **WLCS-031411-R106866** Units: **mg/L** Analysis Date: **3/14/2011 11:00 AM**
Client ID: Run ID: **WETCHEM_110314J** SeqNo: **2313035** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	20.6	1.0	25	0	82.4	80-120	0			

LCSD Sample ID: **WLCSD-031411-R106866** Units: **mg/L** Analysis Date: **3/14/2011 11:00 AM**
Client ID: Run ID: **WETCHEM_110314J** SeqNo: **2313040** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	20.4	1.0	25	0	81.6	80-120	20.6	0.976	20	

DUP Sample ID: **1103221-01EDUP** Units: **mg/L** Analysis Date: **3/14/2011 11:00 AM**
Client ID: **QA030711** Run ID: **WETCHEM_110314J** SeqNo: **2313067** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	U	1.0	0	0	0	-0 0	0.4	0	20	

The following samples were analyzed in this batch: 1103221-01E

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

Client: Malcolm Pirnie
Work Order: 1103221
Project: El Paso Smelter

QC BATCH REPORT

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

MBLK Sample ID: **WBLKW1-031811-R107026** Units: **mg/L** Analysis Date: **3/18/2011 01:00 PM**
Client ID: Run ID: **WETCHEM_110318E** SeqNo: **2317283** Prep Date: DF: **1**

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

LCS Sample ID: **WLCSW1-031811-R107026** Units: **mg/L** Analysis Date: **3/18/2011 01:00 PM**
Client ID: Run ID: **WETCHEM_110318E** SeqNo: **2317284** Prep Date: DF: **1**

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

DUP Sample ID: **1103223-01CDUP** Units: **mg/L** Analysis Date: **3/18/2011 01:00 PM**
Client ID: Run ID: **WETCHEM_110318E** SeqNo: **2317287** Prep Date: DF: **1**

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

The following samples were analyzed in this batch: 1103221-01C

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

ALS Environmental

Date: 22-Mar-11

Client: Malcolm Pirnie
Project: El Paso Smelter
WorkOrder: **1103221**

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/L	Milligrams per Liter

ALS Laboratory Group
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Chain of Custody Form

ALS Laboratory Group
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

Page 1 of 1

ALS Project Manager:

ALS Work Order #: 1103221

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	El Paso Smelter	A	Total Metals (6020/7000) Al, Ca, Mg, Mn, K, Na, Sb, As, Ba, Cd, Cr
Work Order		Project Number	6835001	B	Co, Cu, Fe, Pb, Mo, Ni, Se, Tl, Zn, Hg
Company Name	Malcolm Pirnie	Bill To Company	Malcolm Pirnie	C	Dissolved Metals (6020/7000) Sb, As, Ba, Cd, Cr, Co, Cu, Fe,Pb
Send Report To	Marla Miller	Invoice Attn	Marla Miller	D	Mo, Ni, Se, Tl, Zn, Hg
Address	211 N Florence Street Site 202	Address	211 N Florence Street Suite 202	E	Anions (300) Cl, F, SO4, NO3, NO2
City/State/Zip	ElPaso, TX 79901	City/State/Zip	El Paso, TX 79901	F	TDS
Phone	(915) 533-9025	Phone	(915) 533-9025	G	TSS
Fax	(915) 533-9045	Fax	(915) 533-9045	H	TOC (5310C)
e-Mail Address		e-Mail Address		I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	QA030711	3-7-11	0730	W	2,3,4,7,8	5	X	X	X	X	X	X	X	X			
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Garett Ferguson

Shipment Method: FedEx

Required Turnaround Time: (Check Box) ☑ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Date: 3/7/11 Time: 1800 Received by:

Relinquished by: Date: Time: Received by (Laboratory): 3/8/11 09:00

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: 10 Day TAT

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)
- ☑ Level II Std QC
- ☐ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☐ Other / EDD _____
- ☐ TRRP CheckList
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_3$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Environmental

Sample Receipt Checklist

Client Name: **MALCOLM PIRNIE-EL PASO** Date/Time Received: **08-Mar-11 09:00**

Work Order: **1103221** Received by: **SAY**

Checklist completed by Paresh M. Giga (eSignature) 08-Mar-11 (Date) Reviewed by: Jay Lynn F Thibault (eSignature) 08-Mar-11 (Date)

Matrices: Water
Carrier name: FedEx

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):	1.8C	002	
Cooler(s)/Kit(s):	3915		
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: