



21-Sep-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: **1109379**

Dear Marla,

ALS Environmental received 1 sample on 14-Sep-2011 09:05 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 27.

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

Sincerely,

A handwritten signature in cursive script that reads "Bethany Agarwal".

Electronically approved by: Yvan K. Ty

Bethany Agarwal
Project Manager



Certificate No: TX: T104704231-11-5

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

DOV#T UR X S#K VD /#F R US#Sdu#r i#k h#D OV#Dde r u d r u |#T ur x s##D #F dp se h a#E ur k h u r#D p l b g#F r p s d g |

Environmental ALS

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Client: Malcolm Pirnie
Project: El Paso Smelter
Work Order: 1109379

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1109379-01	QA091211	Water		9/12/2011 10:10	9/14/2011 09:05	<input type="checkbox"/>

Client: Malcolm Pirnie
Project: El Paso Smelter
Work Order: 1109379

Case Narrative

Batch 55452, Metals, Sample 1109430-01 : MS/MSD is for an unrelated sample.

Batch R116207, Anions, Sample QA091211 : MS recoveries were below the control limits for Chloride and Sulfate due to concentration in the background sample. Results are flagged with O. The associated was within the control limits.

ALS Environmental

Date: 21-Sep-11

Client: Malcolm Pirnie
 Project: El Paso Smelter
 Sample ID: QA091211
 Collection Date: 9/12/2011 10:10 AM

Work Order: 1109379
 Lab ID: 1109379-01
 Matrix: WATER

Analyses	Result	Qual	SDL	MLL	Units	Dilution Factor	Date Analyzed
DISSOLVED MERCURY			Method: SW7470		Prep: SW7470 / 9/16/11		Analyst: JCJ
Mercury	U		0.000042	0.000200	mg/L	1	9/16/2011 16:24
MERCURY			Method: SW7470		Prep: SW7470 / 9/19/11		Analyst: JCJ
Mercury	U		0.000042	0.000200	mg/L	1	9/19/2011 16:13
DISSOLVED METALS			Method: SW6020		Prep: SW3010A / 9/16/11		Analyst: ALR
Antimony	0.000546	J	0.00050	0.00500	mg/L	1	9/16/2011 22:40
Arsenic	0.0114		0.00090	0.00500	mg/L	1	9/16/2011 22:40
Barium	0.0984		0.00070	0.00500	mg/L	1	9/16/2011 22:40
Cadmium	U		0.00060	0.00200	mg/L	1	9/16/2011 22:40
Chromium	U		0.00060	0.00500	mg/L	1	9/16/2011 22:40
Cobalt	U		0.00050	0.00500	mg/L	1	9/16/2011 22:40
Copper	U		0.00050	0.00500	mg/L	1	9/16/2011 22:40
Iron	U		0.036	0.200	mg/L	1	9/16/2011 22:40
Lead	0.000404	J	0.00040	0.00500	mg/L	1	9/16/2011 22:40
Molybdenum	0.0220		0.00060	0.00500	mg/L	1	9/16/2011 22:40
Nickel	U		0.0014	0.00500	mg/L	1	9/16/2011 22:40
Selenium	0.00333	J	0.0025	0.00500	mg/L	1	9/16/2011 22:40
Silver	U		0.00070	0.00500	mg/L	1	9/16/2011 22:40
Thallium	U		0.00080	0.00200	mg/L	1	9/16/2011 22:40
Zinc	0.00289	J	0.0025	0.00500	mg/L	1	9/16/2011 22:40
METALS			Method: SW6020		Prep: SW3010A / 9/16/11		Analyst: ALR
Aluminum	12.0		0.40	1.00	mg/L	100	9/19/2011 18:26
Antimony	U		0.00080	0.00500	mg/L	1	9/16/2011 20:06
Arsenic	0.0137		0.0013	0.00500	mg/L	1	9/16/2011 20:06
Barium	0.174		0.00090	0.00500	mg/L	1	9/16/2011 20:06
Cadmium	U		0.00080	0.00200	mg/L	1	9/16/2011 20:06
Calcium	69.2		0.086	0.500	mg/L	1	9/16/2011 20:06
Chromium	0.00733		0.0012	0.00500	mg/L	1	9/16/2011 20:06
Cobalt	0.00260	J	0.00080	0.00500	mg/L	1	9/16/2011 20:06
Copper	0.00786		0.0015	0.00500	mg/L	1	9/16/2011 20:06
Iron	6.35		0.078	0.200	mg/L	1	9/16/2011 20:06
Lead	0.00691		0.00070	0.00500	mg/L	1	9/16/2011 20:06
Magnesium	17.3		0.082	0.200	mg/L	1	9/16/2011 20:06
Manganese	0.239		0.0025	0.00500	mg/L	1	9/16/2011 20:06
Molybdenum	0.0267		0.0015	0.00500	mg/L	1	9/16/2011 20:06
Nickel	0.00748		0.0012	0.00500	mg/L	1	9/16/2011 20:06
Potassium	9.88		0.084	0.200	mg/L	1	9/16/2011 20:06
Selenium	0.00334	J	0.0010	0.00500	mg/L	1	9/16/2011 20:06

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

ALS Environmental

Date: 21-Sep-11

Client: Malcolm Pirnie
 Project: El Paso Smelter
 Sample ID: QA091211
 Collection Date: 9/12/2011 10:10 AM

Work Order: 1109379
 Lab ID: 1109379-01
 Matrix: WATER

Analyses	Result	Qual	SDL	MLL	Units	Dilution Factor	Date Analyzed
Silver		U	0.00080	0.00500	mg/L	1	9/16/2011 20:06
Sodium	117		0.085	0.200	mg/L	1	9/16/2011 20:06
Thallium		U	0.0010	0.00200	mg/L	1	9/16/2011 20:06
Zinc	0.0319		0.0025	0.00500	mg/L	1	9/16/2011 20:06
ANIONS - EPA 300.0 (1993)			Method: E300			Analyst: RPM	
Chloride	118		2.00	5.00	mg/L	10	9/14/2011 11:41
Fluoride	0.688		0.0500	0.100	mg/L	1	9/14/2011 09:40
Nitrogen, Nitrate (As N)	0.596		0.0300	0.100	mg/L	1	9/14/2011 09:40
Nitrogen, Nitrite (As N)		U	0.0300	0.100	mg/L	1	9/14/2011 09:40
Sulfate	216		5.00	5.00	mg/L	10	9/14/2011 11:41
Nitrate/Nitrite (as N)	0.596		0.0300	0.100	mg/L	1	9/14/2011 09:40
Surr: Selenate (surr)	113			85-115	%REC	1	9/14/2011 09:40
Surr: Selenate (surr)	112			85-115	%REC	10	9/14/2011 11:41
ALKALINITY			Method: SM2320B			Analyst: DM	
Alkalinity, Total (As CaCO3)	178		5.0	5.00	mg/L	1	9/20/2011 13:05
SULFIDE			Method: SM4500 S2-F			Analyst: JKP	
Sulfide	1.20		0.50	1.00	mg/L	1	9/16/2011 12:35
TOTAL DISSOLVED SOLIDS			Method: M2540C			Analyst: TDW	
Total Dissolved Solids (Residue, Filterable)	638		5.0	10.0	mg/L	1	9/16/2011 14:00
TOTAL ORGANIC CARBON - SM5310C			Method: SM5310C			Analyst: JKP	
Organic Carbon, Total	3.69		0.10	0.500	mg/L	1	9/16/2011 03:03
TOTAL SUSPENDED SOLIDS			Method: M2540D			Analyst: KAH	
Suspended Solids (Residue, Non-Filterable)	310		2.00	2.00	mg/L	1	9/14/2011 11:35

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

Client: Malcolm Pirnie
Work Order: 1109379
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55443** Instrument ID **Mercury** Method: **SW7470** (**Dissolve**)

MBLK	Sample ID: GBLKW4-091611-55443			Units: mg/L		Analysis Date: 9/16/2011 03:51 PM				
Client ID:	Run ID: MERCURY_110916A			SeqNo: 2528744		Prep Date: 9/16/2011		DF: 1		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.00020								

LCS	Sample ID: GLCSW4-091611-55443			Units: mg/L		Analysis Date: 9/16/2011 03:53 PM				
Client ID:	Run ID: MERCURY_110916A			SeqNo: 2528745		Prep Date: 9/16/2011		DF: 1		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00466	0.00020	0.005	0	93.2	80-120	0			

MS	Sample ID: 1109388-03JMS			Units: mg/L		Analysis Date: 9/16/2011 03:59 PM				
Client ID:	Run ID: MERCURY_110916A			SeqNo: 2528748		Prep Date: 9/16/2011		DF: 1		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00478	0.00020	0.005	-0.000007	95.7	80-120	0			

MSD	Sample ID: 1109388-03JMSD			Units: mg/L		Analysis Date: 9/16/2011 04:01 PM				
Client ID:	Run ID: MERCURY_110916A			SeqNo: 2528749		Prep Date: 9/16/2011		DF: 1		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00476	0.00020	0.005	-0.000007	95.3	80-120	0.00478	0.419	20	

DUP	Sample ID: 1109388-03JDUP			Units: mg/L		Analysis Date: 9/16/2011 03:57 PM				
Client ID:	Run ID: MERCURY_110916A			SeqNo: 2528747		Prep Date: 9/16/2011		DF: 1		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.00020	0	0	0	0-0	-0.000007	0	20	

The following samples were analyzed in this batch: 1109379-01B

Client: Malcolm Pirnie
Work Order: 1109379
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55452** Instrument ID **ICPMS03** Method: **SW6020**

MBLK Sample ID: **MBLKW2-091611-55452** Units: **mg/L** Analysis Date: **9/16/2011 06:38 PM**

Client ID: Run ID: **ICPMS03_110916A** SeqNo: **2529287** Prep Date: **9/16/2011** DF: **1**

Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	U	0.0050								
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	0.001668	0.0050								J
Iron	U	0.20								
Lead	U	0.0050								
Magnesium	U	0.20								
Manganese	U	0.0050								
Molybdenum	U	0.0050								
Nickel	U	0.0050								
Potassium	U	0.20								
Selenium	0.001557	0.0050								J
Silver	U	0.0050								
Sodium	U	0.20								
Thallium	U	0.0020								

MBLK Sample ID: **MBLKW2-091611-55452** Units: **mg/L** Analysis Date: **9/19/2011 03:24 PM**

Client ID: Run ID: **ICPMS03_110919A** SeqNo: **2529961** Prep Date: **9/16/2011** DF: **1**

Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	U	0.010								
Zinc	U	0.0050								

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

Client: Malcolm Pirnie
Work Order: 1109379
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55452** Instrument ID **ICPMS03** Method: **SW6020**

LCS Sample ID: **MLCSW2-091611-55452** Units: **mg/L** Analysis Date: **9/16/2011 06:44 PM**

Client ID: Run ID: **ICPMS03_110916A** SeqNo: **2529288** Prep Date: **9/16/2011** DF: **1**

Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04764	0.0050	0.05	0	95.3	80-120	0			
Arsenic	0.04869	0.0050	0.05	0	97.4	80-120	0			
Barium	0.0511	0.0050	0.05	0	102	80-120	0			
Cadmium	0.04963	0.0020	0.05	0	99.3	80-120	0			
Calcium	4.913	0.50	5	0	98.3	80-120	0			
Chromium	0.0441	0.0050	0.05	0	88.2	80-120	0			
Cobalt	0.04464	0.0050	0.05	0	89.3	80-120	0			
Copper	0.04384	0.0050	0.05	0	87.7	80-120	0			
Iron	4.447	0.20	5	0	88.9	80-120	0			
Lead	0.04884	0.0050	0.05	0	97.7	80-120	0			
Magnesium	4.519	0.20	5	0	90.4	80-120	0			
Manganese	0.04513	0.0050	0.05	0	90.3	80-120	0			
Molybdenum	0.04345	0.0050	0.05	0	86.9	80-120	0			
Nickel	0.04498	0.0050	0.05	0	90	80-120	0			
Potassium	4.572	0.20	5	0	91.4	80-120	0			
Selenium	0.04893	0.0050	0.05	0	97.9	80-120	0			
Silver	0.04673	0.0050	0.05	0	93.5	80-120	0			
Sodium	4.46	0.20	5	0	89.2	80-120	0			
Thallium	0.04866	0.0020	0.05	0	97.3	80-120	0			

LCS Sample ID: **MLCSW2-091611-55452** Units: **mg/L** Analysis Date: **9/19/2011 03:30 PM**

Client ID: Run ID: **ICPMS03_110919A** SeqNo: **2529963** Prep Date: **9/16/2011** DF: **1**

Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1006	0.010	0.1	0	101	80-120	0			
Zinc	0.05647	0.0050	0.05	0	113	80-120	0			

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

Client: Malcolm Pirnie
Work Order: 1109379
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55452** Instrument ID **ICPMS03** Method: **SW6020**

MS Sample ID: **1109430-01AMS** Units: **mg/L** Analysis Date: **9/16/2011 07:07 PM**

Client ID: Run ID: **ICPMS03_110916A** SeqNo: **2529292** Prep Date: **9/16/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.0467	0.0050	0.05	0.0005622	92.3	80-120	0			
Arsenic	0.05004	0.0050	0.05	0.001585	96.9	80-120	0			
Barium	0.09133	0.0050	0.05	0.04297	96.7	80-120	0			
Cadmium	0.04751	0.0020	0.05	0.00003691	94.9	80-120	0			
Calcium	83.54	0.50	5	84.48	-18.8	80-120	0			SO
Chromium	0.04281	0.0050	0.05	0.0006173	84.4	80-120	0			
Cobalt	0.0437	0.0050	0.05	0.0009697	85.5	80-120	0			
Copper	0.04194	0.0050	0.05	0.0003856	83.1	80-120	0			
Iron	4.272	0.20	5	0.06988	84	80-120	0			
Lead	0.0471	0.0050	0.05	0.0004934	93.2	80-120	0			
Magnesium	40.11	0.20	5	37.19	58.4	80-120	0			SO
Manganese	0.1189	0.0050	0.05	0.0793	79.2	80-120	0			S
Molybdenum	0.04593	0.0050	0.05	0.002533	86.8	80-120	0			
Nickel	0.04408	0.0050	0.05	0.00259	83	80-120	0			
Potassium	5.458	0.20	5	1.261	83.9	80-120	0			
Selenium	0.04728	0.0050	0.05	0.00173	91.1	80-120	0			
Silver	0.042	0.0050	0.05	-0.00001273	84	80-120	0			
Sodium	290.3	0.20	5	295.3	-100	80-120	0			SEO
Thallium	0.04729	0.0020	0.05	0.0006177	93.3	80-120	0			
Zinc	0.05882	0.0050	0.05	0.01465	88.3	80-120	0			

MS Sample ID: **1109430-01AMS** Units: **mg/L** Analysis Date: **9/19/2011 09:06 PM**

Client ID: Run ID: **ICPMS03_110919A** SeqNo: **2530525** Prep Date: **9/16/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1861	0.010	0.1	0.07972	106	80-120	0			

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

Client: Malcolm Pirnie
 Work Order: 1109379
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: 55452 Instrument ID ICPMS03 Method: SW6020

MSD Sample ID: 1109430-01AMSD Units: mg/L Analysis Date: 9/16/2011 07:13 PM

Client ID: Run ID: ICPMS03_110916A SeqNo: 2529293 Prep Date: 9/16/2011 DF: 1

Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04854	0.0050	0.05	0.0005622	96	80-120	0.0467	3.86	15	
Arsenic	0.05172	0.0050	0.05	0.001585	100	80-120	0.05004	3.3	15	
Barium	0.09539	0.0050	0.05	0.04297	105	80-120	0.09133	4.35	15	
Cadmium	0.0488	0.0020	0.05	0.00003691	97.5	80-120	0.04751	2.68	15	
Calcium	82.11	0.50	5	84.48	-47.4	80-120	83.54	1.73	15	SO
Chromium	0.04368	0.0050	0.05	0.0006173	86.1	80-120	0.04281	2.01	15	
Cobalt	0.04483	0.0050	0.05	0.0009697	87.7	80-120	0.0437	2.55	15	
Copper	0.04289	0.0050	0.05	0.0003856	85	80-120	0.04194	2.24	15	
Iron	4.354	0.20	5	0.06988	85.7	80-120	4.272	1.9	15	
Lead	0.04818	0.0050	0.05	0.0004934	95.4	80-120	0.0471	2.27	15	
Magnesium	42.95	0.20	5	37.19	115	80-120	40.11	6.84	15	O
Manganese	0.1229	0.0050	0.05	0.0793	87.2	80-120	0.1189	3.31	15	
Molybdenum	0.04824	0.0050	0.05	0.002533	91.4	80-120	0.04593	4.91	15	
Nickel	0.04504	0.0050	0.05	0.00259	84.9	80-120	0.04408	2.15	15	
Potassium	5.744	0.20	5	1.261	89.7	80-120	5.458	5.11	15	
Selenium	0.0508	0.0050	0.05	0.00173	98.1	80-120	0.04728	7.18	15	
Silver	0.04356	0.0050	0.05	-0.00001273	87.1	80-120	0.042	3.65	15	
Sodium	310	0.20	5	295.3	294	80-120	290.3	6.56	15	SEO
Thallium	0.04839	0.0020	0.05	0.0006177	95.5	80-120	0.04729	2.3	15	
Zinc	0.06129	0.0050	0.05	0.01465	93.3	80-120	0.05882	4.11	15	

MSD Sample ID: 1109430-01AMSD Units: mg/L Analysis Date: 9/19/2011 09:11 PM

Client ID: Run ID: ICPMS03_110919A SeqNo: 2530526 Prep Date: 9/16/2011 DF: 1

Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.2013	0.010	0.1	0.07972	122	80-120	0.1861	7.85	15	S

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

Client: Malcolm Pirnie
 Work Order: 1109379
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: 55452 Instrument ID ICPMS03 Method: SW6020

DUP		Sample ID: 1109430-01ADUP				Units: mg/L		Analysis Date: 9/16/2011 06:56 PM		
Client ID:		Run ID: ICPMS03_110916A				SeqNo: 2529290		Prep Date: 9/16/2011		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	0.0005622	0	25	
Arsenic	0.001639	0.0050	0	0	0	0-0	0.001585	0	25	J
Barium	0.04411	0.0050	0	0	0	0-0	0.04297	2.62	25	
Cadmium	U	0.0020	0	0	0	0-0	0.00003691	0	25	
Calcium	82.59	0.50	0	0	0	0-0	84.48	2.26	25	
Chromium	U	0.0050	0	0	0	0-0	0.0006173	0	25	
Cobalt	0.0009556	0.0050	0	0	0	0-0	0.0009697	0	25	J
Copper	U	0.0050	0	0	0	0-0	0.0003856	0	25	
Iron	U	0.20	0	0	0	0-0	0.06988	0	25	
Lead	U	0.0050	0	0	0	0-0	0.0004934	0	25	
Magnesium	38.78	0.20	0	0	0	0-0	37.19	4.19	25	
Manganese	0.07815	0.0050	0	0	0	0-0	0.0793	1.46	25	
Molybdenum	0.001695	0.0050	0	0	0	0-0	0.002533	0	25	J
Nickel	0.002739	0.0050	0	0	0	0-0	0.00259	0	25	J
Potassium	1.286	0.20	0	0	0	0-0	1.261	1.96	25	
Selenium	0.001189	0.0050	0	0	0	0-0	0.00173	0	25	J
Silver	U	0.0050	0	0	0	0-0	-0.00001273	0	25	
Thallium	U	0.0020	0	0	0	0-0	0.0006177	0	25	
Zinc	0.01456	0.0050	0	0	0	0-0	0.01465	0.616	25	

DUP		Sample ID: 1109430-01ADUP				Units: mg/L		Analysis Date: 9/19/2011 03:42 PM		
Client ID:		Run ID: ICPMS03_110919A				SeqNo: 2529966		Prep Date: 9/16/2011		DF: 50
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium	369.7	10	0	0	0	0-0	336.7	9.34	25	

DUP		Sample ID: 1109430-01ADUP				Units: mg/L		Analysis Date: 9/19/2011 08:54 PM		
Client ID:		Run ID: ICPMS03_110919A				SeqNo: 2530522		Prep Date: 9/16/2011		DF: 1
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.0848	0.010	0	0	0	0-0	0.07972	6.18	25	

The following samples were analyzed in this batch: 1109379-01C

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

Client: Malcolm Pirnie
Work Order: 1109379
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55453** Instrument ID **ICPMS03** Method: **SW6020** (**Dissolve**)

MBLK Sample ID: **MBLKW3-091611-55453** Units: **mg/L** Analysis Date: **9/16/2011 09:17 PM**

Client ID: Run ID: **ICPMS03_110916A** SeqNo: **2529375** Prep Date: **9/16/2011** 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								
Iron	U	0.20								
Lead	U	0.0050								
Molybdenum	U	0.0050								
Nickel	U	0.0050								
Selenium	0.001793	0.0050								J
Silver	U	0.0050								
Thallium	U	0.0020								
Zinc	U	0.0050								

MBLK Sample ID: **MBLKW3-091611-55453** Units: **mg/L** Analysis Date: **9/19/2011 02:25 PM**

Client ID: Run ID: **ICPMS03_110919A** SeqNo: **2529852** Prep Date: **9/16/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	U	0.0050								

LCS Sample ID: **MLCSW3-091611-55453** Units: **mg/L** Analysis Date: **9/16/2011 09:23 PM**

Client ID: Run ID: **ICPMS03_110916A** SeqNo: **2529376** Prep Date: **9/16/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04852	0.0050	0.05	0	97	80-120	0			
Arsenic	0.04821	0.0050	0.05	0	96.4	80-120	0			
Barium	0.04985	0.0050	0.05	0	99.7	80-120	0			
Cadmium	0.04847	0.0020	0.05	0	96.9	80-120	0			
Chromium	0.04257	0.0050	0.05	0	85.1	80-120	0			
Cobalt	0.04357	0.0050	0.05	0	87.1	80-120	0			
Iron	4.166	0.20	5	0	83.3	80-120	0			
Lead	0.04736	0.0050	0.05	0	94.7	80-120	0			
Molybdenum	0.04305	0.0050	0.05	0	86.1	80-120	0			
Nickel	0.04333	0.0050	0.05	0	86.7	80-120	0			
Selenium	0.04819	0.0050	0.05	0	96.4	80-120	0			
Silver	0.04604	0.0050	0.05	0	92.1	80-120	0			
Thallium	0.04701	0.0020	0.05	0	94	80-120	0			
Zinc	0.04919	0.0050	0.05	0	98.4	80-120	0			

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

Client: Malcolm Pirnie
 Work Order: 1109379
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55453** Instrument ID **ICPMS03** Method: **SW6020** (**Dissolve**)

LCS		Sample ID: MLCSW3-091611-55453				Units: mg/L		Analysis Date: 9/19/2011 02:19 PM		
Client ID:		Run ID: ICPMS03_110919A				SeqNo: 2529851		Prep Date: 9/16/2011		DF: 1
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	0.053	0.0050	0.05	0	106	80-120	0			

MS		Sample ID: 1109388-03JMS				Units: mg/L		Analysis Date: 9/16/2011 09:47 PM		
Client ID:		Run ID: ICPMS03_110916A				SeqNo: 2529380		Prep Date: 9/16/2011		DF: 1
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05059	0.0050	0.05	0.0002577	101	75-125	0			
Arsenic	0.05046	0.0050	0.05	0.0002975	100	75-125	0			
Barium	0.08104	0.0050	0.05	0.02717	108	75-125	0			
Cadmium	0.05071	0.0020	0.05	-0.00001627	101	75-125	0			
Chromium	0.04459	0.0050	0.05	0.0004516	88.3	75-125	0			
Cobalt	0.04462	0.0050	0.05	0.0005436	88.2	75-125	0			
Iron	4.303	0.20	5	-0.01923	86.4	75-125	0			
Lead	0.04957	0.0050	0.05	0.0003682	98.4	75-125	0			
Molybdenum	0.04815	0.0050	0.05	0.00258	91.1	75-125	0			
Nickel	0.05901	0.0050	0.05	0.01514	87.7	75-125	0			
Selenium	0.04939	0.0050	0.05	0.002106	94.6	75-125	0			
Silver	0.04717	0.0050	0.05	0.00002541	94.3	75-125	0			
Thallium	0.04786	0.0020	0.05	0.0005954	94.5	75-125	0			
Zinc	0.05103	0.0050	0.05	0.00413	93.8	75-125	0			

MS		Sample ID: 1109388-03JMS				Units: mg/L		Analysis Date: 9/19/2011 07:37 PM		
Client ID:		Run ID: ICPMS03_110919A				SeqNo: 2530501		Prep Date: 9/16/2011		DF: 1
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	0.0659	0.0050	0.05	0.01748	96.8	75-125	0			

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

Client: Malcolm Pirnie
 Work Order: 1109379
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55453** Instrument ID **ICPMS03** Method: **SW6020** (Dissolve)

MSD Sample ID: **1109388-03JMSD** Units: **mg/L** Analysis Date: **9/16/2011 09:53 PM**

Client ID: Run ID: **ICPMS03_110916A** SeqNo: **2529381** Prep Date: **9/16/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04985	0.0050	0.05	0.0002577	99.2	75-125	0.05059	1.47	25	
Arsenic	0.04883	0.0050	0.05	0.0002975	97.1	75-125	0.05046	3.28	25	
Barium	0.07785	0.0050	0.05	0.02717	101	75-125	0.08104	4.02	25	
Cadmium	0.04837	0.0020	0.05	-0.00001627	96.8	75-125	0.05071	4.72	25	
Chromium	0.04272	0.0050	0.05	0.0004516	84.5	75-125	0.04459	4.28	25	
Cobalt	0.04386	0.0050	0.05	0.0005436	86.6	75-125	0.04462	1.72	25	
Iron	4.251	0.20	5	-0.01923	85.4	75-125	4.303	1.22	25	
Lead	0.0481	0.0050	0.05	0.0003682	95.5	75-125	0.04957	3.01	25	
Molybdenum	0.04628	0.0050	0.05	0.00258	87.4	75-125	0.04815	3.96	25	
Nickel	0.05848	0.0050	0.05	0.01514	86.7	75-125	0.05901	0.902	25	
Selenium	0.04909	0.0050	0.05	0.002106	94	75-125	0.04939	0.609	25	
Silver	0.0463	0.0050	0.05	0.00002541	92.5	75-125	0.04717	1.86	25	
Thallium	0.04793	0.0020	0.05	0.0005954	94.7	75-125	0.04786	0.146	25	
Zinc	0.04719	0.0050	0.05	0.00413	86.1	75-125	0.05103	7.82	25	

MSD Sample ID: **1109388-03JMSD** Units: **mg/L** Analysis Date: **9/19/2011 07:43 PM**

Client ID: Run ID: **ICPMS03_110919A** SeqNo: **2530502** Prep Date: **9/16/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	0.06405	0.0050	0.05	0.01748	93.1	75-125	0.0659	2.85	25	

DUP Sample ID: **1109388-03JDUP** Units: **mg/L** Analysis Date: **9/16/2011 09:35 PM**

Client ID: Run ID: **ICPMS03_110916A** SeqNo: **2529378** Prep Date: **9/16/2011** 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	0.0002577	0	25	
Arsenic	U	0.0050	0	0	0	0-0	0.0002975	0	25	
Barium	0.02752	0.0050	0	0	0	0-0	0.02717	1.28	25	
Cadmium	U	0.0020	0	0	0	0-0	-0.00001627	0	25	
Chromium	U	0.0050	0	0	0	0-0	0.0004516	0	25	
Cobalt	U	0.0050	0	0	0	0-0	0.0005436	0	25	
Iron	U	0.20	0	0	0	0-0	-0.01923	0	25	
Lead	U	0.0050	0	0	0	0-0	0.0003682	0	25	
Molybdenum	U	0.0050	0	0	0	0-0	0.00258	0	25	
Nickel	0.01529	0.0050	0	0	0	0-0	0.01514	0.986	25	
Selenium	0.002002	0.0050	0	0	0	0-0	0.002106	0	25	J
Silver	U	0.0050	0	0	0	0-0	0.00002541	0	25	
Thallium	U	0.0020	0	0	0	0-0	0.0005954	0	25	
Zinc	0.002721	0.0050	0	0	0	0-0	0.00413	0	25	J

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

Client: Malcolm Pirnie
Work Order: 1109379
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55453** Instrument ID **ICPMS03** Method: **SW6020** **(Dissolve)**

DUP Sample ID: **1109388-03JDUP** Units: **mg/L** Analysis Date: **9/19/2011 07:25 PM**

Client ID: Run ID: **ICPMS03_110919A** SeqNo: **2530499** Prep Date: **9/16/2011** DF: **1**

Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	0.01806	0.0050	0	0	0	0-0	0.01748	3.26	25	

The following samples were analyzed in this batch:

Client: Malcolm Pirnie
 Work Order: 1109379
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55490** Instrument ID **Mercury** Method: **SW7470**

MBLK	Sample ID: GBLKW1-091911-55490					Units: mg/L	Analysis Date: 9/19/2011 03:35 PM			
Client ID:	Run ID: MERCURY_110919A			SeqNo: 2530063	Prep Date: 9/19/2011	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: GLCSW1-091911-55490					Units: mg/L	Analysis Date: 9/19/2011 03:37 PM			
Client ID:	Run ID: MERCURY_110919A			SeqNo: 2530064	Prep Date: 9/19/2011	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00511	0.00020	0.005	0	102	85-115	0			

MS	Sample ID: 1109388-08IMS					Units: mg/L	Analysis Date: 9/19/2011 03:49 PM			
Client ID:	Run ID: MERCURY_110919A			SeqNo: 2530067	Prep Date: 9/19/2011	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00525	0.00020	0.005	-0.000002	105	85-115	0			

MSD	Sample ID: 1109388-08IMSD					Units: mg/L	Analysis Date: 9/19/2011 03:51 PM			
Client ID:	Run ID: MERCURY_110919A			SeqNo: 2530069	Prep Date: 9/19/2011	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00509	0.00020	0.005	-0.000002	102	85-115	0.00525	3.09	20	

DUP	Sample ID: 1109388-08IDUP					Units: mg/L	Analysis Date: 9/19/2011 03:42 PM			
Client ID:	Run ID: MERCURY_110919A			SeqNo: 2530066	Prep Date: 9/19/2011	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	-0.000002	0	20	

The following samples were analyzed in this batch: 1109379-01C

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

Client: Malcolm Pirnie
Work Order: 1109379
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R116162** Instrument ID **BALANCE1** Method: **M2540D**

MBLK		Sample ID: WBLK-091411-R116162				Units: mg/L		Analysis Date: 9/14/2011 11:35 AM		
Client ID:		Run ID: BALANCE1_110914A				SeqNo: 2525894		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-Fi	U	2.0								

LCS		Sample ID: WLCS-091411-R116162				Units: mg/L		Analysis Date: 9/14/2011 11:35 AM		
Client ID:		Run ID: BALANCE1_110914A				SeqNo: 2525896		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-Fi	93.33	2.0	100	0	93.3	78-120	0			

DUP		Sample ID: 1109375-01BDUP				Units: mg/L		Analysis Date: 9/14/2011 11:35 AM		
Client ID:		Run ID: BALANCE1_110914A				SeqNo: 2525889		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-Fi	10	2.0	0	0	0	0-0	10.5	4.88	20	

The following samples were analyzed in this batch:

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

Client: Malcolm Pirnie
 Work Order: 1109379
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R116207** Instrument ID **ICS2100** Method: **E300**

MBLK		Sample ID: WBLKW1-091311-R116207			Units: mg/L			Analysis Date: 9/13/2011 11:25 PM		
Client ID:		Run ID: ICS2100_110913B			SeqNo: 2526703		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								
Fluoride	U	0.10								
Nitrogen, Nitrate (As N)	U	0.10								
Nitrogen, Nitrite (As N)	U	0.10								
Sulfate	U	0.50								
Nitrate/Nitrite (as N)	U	0.20								
<i>Surr: Selenate (surr)</i>	5.398	0.10	5	0	108	85-115	0			

LCS		Sample ID: WLC SW1-091311-R116207			Units: mg/L			Analysis Date: 9/13/2011 11:39 PM		
Client ID:		Run ID: ICS2100_110913B			SeqNo: 2526704		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	18.26	0.50	20	0	91.3	90-110	0			
Fluoride	4.233	0.10	4	0	106	90-110	0			
Nitrogen, Nitrate (As N)	3.746	0.10	4	0	93.6	90-110	0			
Nitrogen, Nitrite (As N)	3.619	0.10	4	0	90.5	90-110	0			
Sulfate	18.89	0.50	20	0	94.5	90-110	0			
Nitrate/Nitrite (as N)	7.365	0.20	8	0	92.1	90-110	0			
<i>Surr: Selenate (surr)</i>	5.379	0.10	5	0	108	85-115	0			

LCSD		Sample ID: WLCSDW1-091311-R116207			Units: mg/L			Analysis Date: 9/13/2011 11:54 PM		
Client ID:		Run ID: ICS2100_110913B			SeqNo: 2526705		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	18.52	0.50	20	0	92.6	90-110	0	0	20	
Fluoride	4.301	0.10	4	0	108	90-110	0	0	20	
Nitrogen, Nitrate (As N)	3.771	0.10	4	0	94.3	90-110	0	0	20	
Nitrogen, Nitrite (As N)	3.656	0.10	4	0	91.4	90-110	0	0	20	
Sulfate	19.13	0.50	20	0	95.6	90-110	0	0	20	
Nitrate/Nitrite (as N)	7.427	0.20	8	0	92.8	90-110	0	0	20	
<i>Surr: Selenate (surr)</i>	5.439	0.10	5	0	109	85-115	0	0	20	

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

Client: Malcolm Pirnie
Work Order: 1109379
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R116207** Instrument ID **ICS2100** Method: **E300**

MS		Sample ID: 1109379-01EMS			Units: mg/L			Analysis Date: 9/14/2011 10:14 AM		
Client ID: QA091211		Run ID: ICS2100_110913B			SeqNo: 2526707			Prep Date:		DF: 1
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	128	0.50	10	120.4	75.5	80-120	0			SEO
Fluoride	2.839	0.10	2	0.688	108	80-120	0			
Nitrogen, Nitrate (As N)	2.457	0.10	2	0.596	93	80-120	0			
Nitrogen, Nitrite (As N)	1.751	0.10	2	0	87.6	80-120	0			
Sulfate	230.1	0.50	10	226.6	34.4	80-120	0			SEO
Nitrate/Nitrite (as N)	4.208	0.20	4	0.596	90.3	80-120	0			
<i>Surr: Selenate (surr)</i>	5.578	0.10	5	0	112	85-115	0			

MSD		Sample ID: 1109379-01EMSD			Units: mg/L			Analysis Date: 9/14/2011 10:28 AM		
Client ID: QA091211		Run ID: ICS2100_110913B			SeqNo: 2526708			Prep Date:		DF: 1
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	130.6	0.50	10	120.4	102	80-120	0	0	20	EO
Fluoride	2.785	0.10	2	0.688	105	80-120	0	0	20	
Nitrogen, Nitrate (As N)	2.553	0.10	2	0.596	97.8	80-120	0	0	20	
Nitrogen, Nitrite (As N)	1.797	0.10	2	0	89.8	80-120	0	0	20	
Sulfate	236.5	0.50	10	226.6	98.9	80-120	0	0	20	EO
Nitrate/Nitrite (as N)	4.35	0.20	4	0.596	93.8	80-120	0	0	20	
<i>Surr: Selenate (surr)</i>	5.67	0.10	5	0	113	85-115	0	0	20	

The following samples were analyzed in this batch:

1109379-01E

Client: Malcolm Pirnie
 Work Order: 1109379
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: R116275 Instrument ID TOC_02 Method: SM5310C

MBLK		Sample ID: WBLKW1-091511-R116275				Units: mg/L		Analysis Date: 9/16/2011 12:11 AM		
Client ID:		Run ID: TOC_02_110915I				SeqNo: 2527969		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	U	0.50								

LCS		Sample ID: WLCSW1-091511-R116275				Units: mg/L		Analysis Date: 9/16/2011 12:25 AM		
Client ID:		Run ID: TOC_02_110915I				SeqNo: 2527970		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	8.902	0.50	10	0	89	80-120	0			

LCSD		Sample ID: WLCSDW1-091511-R116275				Units: mg/L		Analysis Date: 9/16/2011 12:40 AM		
Client ID:		Run ID: TOC_02_110915I				SeqNo: 2527971		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	8.931	0.50	10	0	89.3	80-120	8.902	0.325	20	

MS		Sample ID: 1109242-01AMSZ				Units: mg/L		Analysis Date: 9/16/2011 01:09 AM		
Client ID:		Run ID: TOC_02_110915I				SeqNo: 2527973		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	11.95	0.50	10	2.34	96.1	80-120	0			

MSD		Sample ID: 1109242-01AMSDZ				Units: mg/L		Analysis Date: 9/16/2011 01:25 AM		
Client ID:		Run ID: TOC_02_110915I				SeqNo: 2527974		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	12.02	0.50	10	2.34	96.8	80-120	11.95	0.584	20	

The following samples were analyzed in this batch:

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

Client: Malcolm Pirnie
Work Order: 1109379
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R116306** Instrument ID **WetChem** Method: **SM4500 S2-F**

MBLK Sample ID: **WBLKW1-091611-R116306** Units: **mg/L** Analysis Date: **9/16/2011 12:35 PM**

Client ID: Run ID: **WETCHEM_110916F** SeqNo: **2528859** 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								

LCS Sample ID: **WLCSW1-091611-R116306** Units: **mg/L** Analysis Date: **9/16/2011 12:35 PM**

Client ID: Run ID: **WETCHEM_110916F** SeqNo: **2528860** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	21.8	1.0	25		0	87.2	80-120	0		

LCSD Sample ID: **WLCSDW1-091611-R116306** Units: **mg/L** Analysis Date: **9/16/2011 12:35 PM**

Client ID: Run ID: **WETCHEM_110916F** SeqNo: **2528867** Prep Date: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	20.8	1.0	25		0	83.2	80-120	21.8	4.69	20

The following samples were analyzed in this batch: 1109379-01D

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

Client: Malcolm Pirnie
Work Order: 1109379
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R116367** Instrument ID **Balance1** Method: **M2540C**

MBLK		Sample ID: BLANK-R116367				Units: mg/L		Analysis Date: 9/16/2011 02:00 PM		
Client ID:		Run ID: BALANCE1_110916D				SeqNo: 2530699		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-R116367				Units: mg/L		Analysis Date: 9/16/2011 02:00 PM		
Client ID:		Run ID: BALANCE1_110916D				SeqNo: 2530700		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	964	10	1000	0	96.4	85-115	0			

DUP		Sample ID: 1109364-01ADUP				Units: mg/L		Analysis Date: 9/16/2011 02:00 PM		
Client ID:		Run ID: BALANCE1_110916D				SeqNo: 2530688		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	1160	10	0	0	0	0-0	1186	2.22	20	

DUP		Sample ID: 1109367-06CDUP				Units: mg/L		Analysis Date: 9/16/2011 02:00 PM		
Client ID:		Run ID: BALANCE1_110916D				SeqNo: 2530695		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	268	10	0	0	0	0-0	262	2.26	20	

The following samples were analyzed in this batch: 1109379-01E

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

Client: Malcolm Pirnie
Work Order: 1109379
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R116388** Instrument ID **WetChem** Method: **SM2320B**

MBLK		Sample ID: WBLKW1-092011-R116388				Units: mg/L		Analysis Date: 9/20/2011 01:05 PM		
Client ID:		Run ID: WETCHEM_110920D				SeqNo: 2530950		Prep Date:		DF: 1
Analyte	Result	ML	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: WLCSW1-092011-R116388				Units: mg/L		Analysis Date: 9/20/2011 01:05 PM		
Client ID:		Run ID: WETCHEM_110920D				SeqNo: 2530951		Prep Date:		DF: 1
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1008	5.0	1000	0	101	80-120	0			

DUP		Sample ID: 1109379-01EDUP				Units: mg/L		Analysis Date: 9/20/2011 01:05 PM		
Client ID: QA091211		Run ID: WETCHEM_110920D				SeqNo: 2530953		Prep Date:		DF: 1
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	178.7	5.0	0	0	0	0-0	0	0	20	

The following samples were analyzed in this batch:

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

Client: Malcolm Pirnie
Project: El Paso Smelter
WorkOrder: 1109379

**QUALIFIERS,
ACRONYMS, UNITS**

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

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

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



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

Page 1 of 1

1109379

MALCOLM PIRNIE-EL PASO: Malcolm Pirnie

Project: El Paso Smelter



ALS Project Manager:

Customer Information		Project Information																
Purchase Order		Project Name	EL PASO SMELTER	A	Total Diss. (6020) Sb, As, Ba, Cd, Cr, Cu, Fe, Pb, Mo, Ni, Se, Ti, Zn, Ag													
Work Order		Project Number	6835001.W070	B	Total Diss. Hg (7470)													
Company Name	Malcolm Pirnie	Bill To Company		C	Total Cations (6010) Al, Ca, Mg, K, Na, Mn													
Send Report To	Marla Miller	Invoice Attn		D	Anions (300.0) Chloride, Sulfate, Nitrate/Nitrite													
Address	211 A. Florence St. STE 202	Address		E	Fluoride (340.2)													
City/State/Zip	EL PASO, TX 79901	City/State/Zip		F	TDS (160.1)													
Phone	(915) 533-9025	Phone		G	TSS (160.2)													
Fax	(915) 533-9045	Fax		H	TOC (415.1)													
e-Mail Address		e-Mail Address		I	Sulfide													
				J	Alkalinity													

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	QA091211	9-12-11	1010	W	2,3,4,7,8	5	X	X	X	X	X	X	X	X	X	X	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign Doug Solon <i>Douglas Solon</i>		Shipment Method FEDEX		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:			
Relinquished by: <i>Douglas Solon</i>	Date: 9/12/11	Time: 1400	Received by:	Notes:							
Relinquished by:	Date:	Time:	Received by (Laboratory): <i>ASR 9/14/11 OAS</i>	Cooler ID	Cooler Temp	QC Package: (Check One Box Below)					
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):			<input type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist				
						<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRRP Level IV				
						<input type="checkbox"/> Level IV SW846/CLP					
						<input type="checkbox"/> Other					

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 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.

Sample Receipt Checklist

Client Name: MALCOLM PIRNIE-EL PASO

Date/Time Received: 14-Sep-11 09:05

Work Order: 1109379

Received by: RDH

Checklist completed by Robert D. Harris 14-Sep-11
eSignature Date

Reviewed by: Lithany Agarwal 14-Sep-11
eSignature Date

Matrices: waters

Carrier name: FedEx

Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [checked] No [] Not Present []
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [] No [checked]
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [] No [checked]
Temperature(s)/Thermometer(s): 13.8c 002
Cooler(s)/Kit(s): 3857
Water - VOA vials have zero headspace? Yes [] No [] No VOA vials submitted [checked]
Water - pH acceptable upon receipt? Yes [checked] No [] N/A []
pH adjusted? Yes [] No [] N/A [checked]
pH adjusted by: -

Login Notes: TOC sample received in a 250PH2SO4 instead of a 250AH2SO4. Also received out of temp.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments: []

CorrectiveAction: []

FedEx Tracking Number

8768 2279 1371

0200

Form 10 No.

FedEx Retrieval Copy

1104379

1 From
 Date: 9-12-11
 Sender's FedEx Account Number: 3521-9948-6
 Sender's Name: D. Solon
 Phone: 915 603-1015
 Company: MP1
 Address: 211 N. Florence STE 202
 City: ZIP State TX ZIP 79901

2 Your Internal Billing Reference
 06835001.0070

3 To Recipient Name
 Client Services
 Phone: 281 530-5656

Company: ALS LAB

Address: 10450 Stancliff Rd. <
 We cannot deliver to P.O. boxes or P.O. ZIP codes.
 Dept./Floor/Suite/Room

Address: STE 210
 Use this line for the HOLD location address or for continuation of your shipping address.

City: Houston State TX ZIP 77099-4338

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.

4 Express Package Service * To most locations. Packages up to 150 lbs. For packages over 120 lbs. use the new FedEx Express Freight US Airbill.

Next Business Day
 06 FedEx First Overnight
 Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 01 FedEx Priority Overnight
 Next business morning. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 05 FedEx Standard Overnight
 Next business afternoon. Saturday Delivery NOT available.

2 or 3 Business Days
 49 NEW FedEx 2Day A.M.
 Second business morning. Saturday Delivery NOT available.
 03 FedEx 2Day
 Second business afternoon. Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 20 FedEx Express Saver
 Third business day. Saturday Delivery NOT available.

5 Packaging * Declared value limit \$500.

06 FedEx Envelope* **02 FedEx Pak*** **03 FedEx Box** **04 FedEx Tube** **01 Other**

6 Special Handling and Delivery Signature Options

03 SATURDAY DELIVERY

No Signature Required
 Package may be left without obtaining a signature for delivery.

10 Direct Signature
 Someone at recipient's address may sign for delivery. Fee applies.

34 Indirect Signature
 If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods?
 One box must be checked.
 No 04 Yes As per attached Shipper's Declaration. **Yes** Shipper's Declaration not required.
 06 Dry Ice Dry Ice, 3, UN 1845 _____ x _____ kg
 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. Obtain recip. Acct. No.

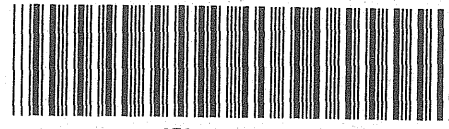
1 Sender Acct. No. in Section 1 will be billed. **2 Recipient** **3 Third Party** **4 Credit Card** **5 Cash/Check**

Total Packages: 1 Total Weight: 210 lbs. Credit Card Auth. [Redacted]

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

612

fedex.com 1800.Go.FedEx 1800.463.3339



8768 2279 1371

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

CUSTODY SEAL

Date: 9/12/11 Time: 2:50 PM
 Name: [Signature]
 Company: MP1

Seal Broken By: [Signature]
 Date: 9/12/11