



12-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: **1109057**

Dear Marla,

ALS Environmental received 1 sample on 02-Sep-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 37.

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: Makenzie L. Henderson

Bethany Agarwal
Project Manager



Certificate No: T104704231-09A-TX

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#khd#OV#Ode ruderu|#T urxs##D #F dp seha#Eurkhu#Op lbg#F rp sdg |

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Client: Malcolm Pirnie
Project: El Paso Smelter
Work Order: 1109057

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>
1109057-01	QA090111	Water		9/1/2011 09:45	9/2/2011 09:00	<input type="checkbox"/>

Client: Malcolm Pirnie
Project: El Paso Smelter
Work Order: 1109057

Case Narrative

Batch R115690, Anions, Sample QA090111: Sample was analyzed outside method holding time. Initial analysis within holding time was compromised due to instrument failure.

Batch R115690, Anions, Sample 1109058-01: MS/MSD performed on an unrelated sample.

Batch R115854, Anions, Sample 1109206-01: MS/MSD performed on an unrelated sample.

Batch 55221, Metals, Sample 1108998-02: MS/MSD performed on an unrelated sample.

ALS Environmental

Date: 12-Sep-11

Client: Malcolm Pirnie
 Project: El Paso Smelter
 Sample ID: QA090111
 Collection Date: 9/1/2011 09:45 AM

Work Order: 1109057
 Lab ID: 1109057-01
 Matrix: WATER

Analyses	Result	Qual	SDL	MLL	Units	Dilution Factor	Date Analyzed
DISSOLVED MERCURY			Method: SW7470		Prep: SW7470 / 9/8/11		Analyst: JCJ
Mercury	0.000256		0.000042	0.000200	mg/L	1	9/8/2011 15:43
MERCURY			Method: SW7470		Prep: SW7470 / 9/7/11		Analyst: JCJ
Mercury	0.000283		0.000042	0.000200	mg/L	1	9/7/2011 15:31
DISSOLVED METALS			Method: SW6020		Prep: SW3010A / 9/7/11		Analyst: IGF
Antimony		U	0.00050	0.00500	mg/L	1	9/8/2011 01:35
Arsenic	0.137		0.00090	0.00500	mg/L	1	9/8/2011 01:35
Barium	0.0116		0.00070	0.00500	mg/L	1	9/8/2011 01:35
Cadmium	0.00106	J	0.00060	0.00200	mg/L	1	9/8/2011 01:35
Chromium	0.00204	J	0.00060	0.00500	mg/L	1	9/8/2011 01:35
Cobalt	0.00186	J	0.00050	0.00500	mg/L	1	9/8/2011 01:35
Copper	0.00495	J	0.00050	0.00500	mg/L	1	9/8/2011 01:35
Iron	0.0394	J	0.036	0.200	mg/L	1	9/8/2011 01:35
Lead	0.00170	J	0.00040	0.00500	mg/L	1	9/8/2011 01:35
Molybdenum	0.128		0.00060	0.00500	mg/L	1	9/8/2011 01:35
Nickel	0.0148		0.0014	0.00500	mg/L	1	9/8/2011 01:35
Selenium	0.269		0.0025	0.00500	mg/L	1	9/8/2011 01:35
Silver		U	0.00070	0.00500	mg/L	1	9/8/2011 01:35
Thallium	0.00138	J	0.00080	0.00200	mg/L	1	9/8/2011 01:35
Zinc	0.00586		0.0025	0.00500	mg/L	1	9/8/2011 01:35
METALS			Method: SW6020		Prep: SW3010A / 9/7/11		Analyst: ALR
Aluminum	0.277		0.0040	0.0100	mg/L	1	9/8/2011 20:39
Antimony		U	0.00080	0.00500	mg/L	1	9/8/2011 20:39
Arsenic	0.129		0.0013	0.00500	mg/L	1	9/8/2011 20:39
Barium	0.0161		0.00090	0.00500	mg/L	1	9/8/2011 20:39
Cadmium		U	0.00080	0.00200	mg/L	1	9/8/2011 20:39
Calcium	375		4.3	25.0	mg/L	50	9/8/2011 20:32
Chromium	0.00132	J	0.0012	0.00500	mg/L	1	9/8/2011 20:39
Cobalt	0.00144	J	0.00080	0.00500	mg/L	1	9/8/2011 20:39
Copper	0.00824		0.0015	0.00500	mg/L	1	9/8/2011 20:39
Iron	0.248		0.078	0.200	mg/L	1	9/8/2011 20:39
Lead	0.00219	J	0.00070	0.00500	mg/L	1	9/8/2011 20:39
Magnesium	162		0.082	0.200	mg/L	1	9/8/2011 20:39
Manganese	0.0320		0.0025	0.00500	mg/L	1	9/8/2011 20:39
Molybdenum	0.131		0.0015	0.00500	mg/L	1	9/8/2011 20:39
Nickel	0.0150		0.0012	0.00500	mg/L	1	9/8/2011 20:39
Potassium	15.9		0.084	0.200	mg/L	1	9/8/2011 20:39
Selenium	0.264		0.0010	0.00500	mg/L	1	9/8/2011 20:39

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

ALS Environmental

Date: 12-Sep-11

Client: Malcolm Pirnie
 Project: El Paso Smelter
 Sample ID: QA090111
 Collection Date: 9/1/2011 09:45 AM

Work Order: 1109057
 Lab ID: 1109057-01
 Matrix: WATER

Analyses	Result	Qual	SDL	MLL	Units	Dilution Factor	Date Analyzed
Silver		U	0.00080	0.00500	mg/L	1	9/8/2011 20:39
Sodium	979		4.2	10.0	mg/L	50	9/8/2011 20:32
Thallium		U	0.0010	0.00200	mg/L	1	9/8/2011 20:39
Zinc	0.00838		0.0025	0.00500	mg/L	1	9/8/2011 20:39
ANIONS - EPA 300.0 (1993)			Method: E300			Analyst: JBA	
Chloride	496		4.00	10.0	mg/L	20	9/3/2011 12:43
Fluoride	0.630		0.0500	0.100	mg/L	1	9/3/2011 12:16
Nitrogen, Nitrate (As N)	87.0	H	0.600	2.00	mg/L	20	9/3/2011 12:43
Nitrogen, Nitrite (As N)		U	0.0300	0.100	mg/L	1	9/3/2011 12:16
Sulfate	2,450		50.0	50.0	mg/L	100	9/8/2011 15:07
Nitrate/Nitrite (as N)	87.0	H	0.600	2.00	mg/L	20	9/3/2011 12:43
Surr: Selenate (surr)	96.6			85-115	%REC	1	9/3/2011 12:16
Surr: Selenate (surr)	101			85-115	%REC	20	9/3/2011 12:43
Surr: Selenate (surr)	111			85-115	%REC	100	9/8/2011 15:07
ALKALINITY			Method: SM2320B			Analyst: DM	
Alkalinity, Total (As CaCO3)	288		5.0	5.00	mg/L	1	9/9/2011 09:56
SULFIDE			Method: SM4500 S2-F			Analyst: JKP	
Sulfide	11.8		0.50	1.00	mg/L	1	9/6/2011 16:50
TOTAL DISSOLVED SOLIDS			Method: M2540C			Analyst: TDW	
Total Dissolved Solids (Residue, Filterable)	5,250		5.0	10.0	mg/L	1	9/2/2011 12:00
TOTAL ORGANIC CARBON - SM5310C			Method: SM5310C			Analyst: JKP	
Organic Carbon, Total	2.21		0.10	0.500	mg/L	1	9/7/2011 22:42
TOTAL SUSPENDED SOLIDS			Method: M2540D			Analyst: KAH	
Suspended Solids (Residue, Non-Filterable)	23.6		2.00	2.00	mg/L	1	9/7/2011 12:00

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

WorkOrder: 1109057
InstrumentID: Balance1
Test Code: TDS_W 2540C
Test Number: M2540C
Test Name: Total Dissolved Solids

**METHOD DETECTION /
REPORTING LIMITS**

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

Type	Analyte	CAS	DCS	MDL	Unadjusted MQL
A	Total Dissolved Solids (Residue, Filterable)	TDS	6.0	5.0	10

WorkOrder: 1109057
InstrumentID: Balance1
Test Code: TSS_W 2540D
Test Number: M2540D
Test Name: Total Suspended Solids

**METHOD DETECTION /
REPORTING LIMITS**

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

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

WorkOrder: 1109057
InstrumentID: ICP7500
Test Code: ICP_DISS
Test Number: SW6020
Test Name: Dissolved Metals

**METHOD DETECTION /
 REPORTING LIMITS**

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

Type	Analyte	CAS	DCS	MDL	Unadjusted MQL
A	Antimony	7440-36-0	0.0019	0.00050	0.0050
A	Arsenic	7440-38-2	0.0015	0.00090	0.0050
A	Barium	7440-39-3	0.0013	0.00070	0.0050
A	Cadmium	7440-43-9	0.0014	0.00060	0.0020
A	Chromium	7440-47-3	0.0015	0.00060	0.0050
A	Cobalt	7440-48-4	0.0015	0.00050	0.0050
A	Copper	7440-50-8	0.0016	0.00050	0.0050
A	Iron	7439-89-6	0.16	0.036	0.20
A	Lead	7439-92-1	0.0010	0.00040	0.0050
A	Molybdenum	7439-98-7	0.0027	0.00060	0.0050
A	Nickel	7440-02-0	0.0016	0.0014	0.0050
A	Selenium	7782-49-2	0.0022	0.0025	0.0050
A	Silver	7440-22-4	0.0014	0.00070	0.0050
A	Thallium	7440-28-0	0.0017	0.00080	0.0020
A	Zinc	7440-66-6	0.0024	0.0025	0.0050

WorkOrder: 1109057
InstrumentID: ICPMS03
Test Code: ICP_TW
Test Number: SW6020
Test Name: Metals

**METHOD DETECTION /
 REPORTING LIMITS**

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

Type	Analyte	CAS	DCS	MDL	Unadjusted MQL
A	Aluminum	7429-90-5	0.0080	0.0040	0.010
A	Antimony	7440-36-0	0.0017	0.00080	0.0050
A	Arsenic	7440-38-2	0.0020	0.0013	0.0050
A	Barium	7440-39-3	0.0016	0.00090	0.0050
A	Cadmium	7440-43-9	0.0013	0.00080	0.0020
A	Calcium	7440-70-2	0.054	0.086	0.50
A	Chromium	7440-47-3	0.0013	0.0012	0.0050
A	Cobalt	7440-48-4	0.0012	0.00080	0.0050
A	Copper	7440-50-8	0.0012	0.0015	0.0050
A	Iron	7439-89-6	0.12	0.078	0.20
A	Lead	7439-92-1	0.0015	0.00070	0.0050
A	Magnesium	7439-95-4	0.15	0.082	0.20
A	Manganese	7439-96-5	0.0014	0.0025	0.0050
A	Molybdenum	7439-98-7	0.0040	0.0015	0.0050
A	Nickel	7440-02-0	0.0011	0.0012	0.0050
A	Potassium	7440-09-7	0.14	0.084	0.20
A	Selenium	7782-49-2	0.0041	0.0010	0.0050
A	Silver	7440-22-4	0.0014	0.00080	0.0050
A	Sodium	7440-23-5	0.17	0.085	0.20
A	Thallium	7440-28-0	0.0015	0.0010	0.0020
A	Zinc	7440-66-6	0.00098	0.0025	0.0050

WorkOrder: 1109057
InstrumentID: ICS3000
Test Code: 300_W
Test Number: E300
Test Name: Anions - EPA 300.0 (1993)

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous Units: mg/L

Type	Analyte	CAS	DCS	MDL	Unadjusted MQL
A	Chloride	16887-00-6	0.495	0.200	0.500
A	Fluoride	16984-48-8	0.0830	0.0500	0.100
A	Nitrogen, Nitrate (As N)	14797-55-8	0.0890	0.0300	0.100
A	Nitrogen, Nitrite (As N)	14797-65-0	0.0850	0.0300	0.100
A	Sulfate	14808-79-8	0.542	0.500	0.500
M	Nitrate/Nitrite (as N)		0.174	0.0300	0.100
S	Surr: Selenate (surr)	10102-23-5	0	0.100	0.100

WorkOrder: 1109057
InstrumentID: Mercury
Test Code: HG_DISS
Test Number: SW7470
Test Name: Dissolved Mercury

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous Units: mg/L

Type	Analyte	CAS	DCS	MDL	Unadjusted MQL
A	Mercury	7439-97-6	0.000090	0.000042	0.00020

WorkOrder: 1109057
InstrumentID: Mercury
Test Code: HG_W
Test Number: SW7470
Test Name: Mercury

**METHOD DETECTION /
REPORTING LIMITS**

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

Type	Analyte	CAS	DCS	MDL	Unadjusted MQL
A	Mercury	7439-97-6	0.000090	0.000042	0.00020

WorkOrder: 1109057
InstrumentID: TOC_02
Test Code: TOC_W 5310C
Test Number: SM5310C
Test Name: Total Organic Carbon - SM5310C

**METHOD DETECTION /
REPORTING LIMITS**

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

Type	Analyte	CAS	DCS	MDL	Unadjusted MQL
A	Organic Carbon, Total	7440-44-0	0.21	0.10	0.50

WorkOrder: 1109057
InstrumentID: WetChem
Test Code: ALK_W 2320B
Test Number: SM2320B
Test Name: Alkalinity

**METHOD DETECTION /
REPORTING LIMITS**

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

Type	Analyte	CAS	DCS	MDL	Unadjusted MQL
A	Alkalinity, Total (As CaCO3)	ALK	11	5.0	5.0

WorkOrder: 1109057
InstrumentID: WetChem
Test Code: SULFD_4500S F
Test Number: SM4500 S2-F
Test Name: Sulfide

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous Units: mg/L

Type	Analyte	CAS	DCS	MDL	Unadjusted MQL
A	Sulfide	18496-25-8	0.60	0.50	1.0

ALS Environmental

Date: 12-Sep-11

Client: Malcolm Pirnie
Work Order: 1109057
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55206** Instrument ID **Mercury** Method: **SW7470**

MBLK	Sample ID: GBLKW2-090711-55206			Units: mg/L		Analysis Date: 9/7/2011 03:27 PM				
Client ID:	Run ID: MERCURY_110907A			SeqNo: 2518096		Prep Date: 9/7/2011		DF: 1		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.00020								

LCS	Sample ID: GLCSW2-090711-55206			Units: mg/L		Analysis Date: 9/7/2011 03:29 PM				
Client ID:	Run ID: MERCURY_110907A			SeqNo: 2518097		Prep Date: 9/7/2011		DF: 1		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00498	0.00020	0.005	0	99.6	85-115	0			

MS	Sample ID: 1109057-01DMS			Units: mg/L		Analysis Date: 9/7/2011 03:35 PM				
Client ID: QA090111	Run ID: MERCURY_110907A			SeqNo: 2518100		Prep Date: 9/7/2011		DF: 1		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00535	0.00020	0.005	0.000283	101	85-115	0			

MSD	Sample ID: 1109057-01DMSD			Units: mg/L		Analysis Date: 9/7/2011 03:37 PM				
Client ID: QA090111	Run ID: MERCURY_110907A			SeqNo: 2518101		Prep Date: 9/7/2011		DF: 1		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00521	0.00020	0.005	0.000283	98.5	85-115	0.00535	2.65	20	

DUP	Sample ID: 1109057-01DDUP			Units: mg/L		Analysis Date: 9/7/2011 03:33 PM				
Client ID: QA090111	Run ID: MERCURY_110907A			SeqNo: 2518099		Prep Date: 9/7/2011		DF: 1		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.000292	0.00020	0	0	0	0-0	0.000283	3.13	20	

The following samples were analyzed in this batch: 1109057-01D

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

Client: Malcolm Pirnie
Work Order: 1109057
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55221** Instrument ID **ICPMS03** Method: **SW6020**

MBLK		Sample ID: MBLKW5-090711-55221			Units: mg/L		Analysis Date: 9/7/2011 06:06 PM			
Client ID:		Run ID: ICPMS03_110906A			SeqNo: 2518721		Prep Date: 9/7/2011		DF: 1	
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	U	0.010								
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	U	0.0050								
Molybdenum	U	0.0050								
Nickel	U	0.0050								
Potassium	U	0.20								
Selenium	0.001151	0.0050								J
Silver	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: 1109057
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55221** Instrument ID **ICPMS03** Method: **SW6020**

LCS		Sample ID: MLCSW5-090711-55221			Units: mg/L		Analysis Date: 9/7/2011 06:12 PM			
Client ID:		Run ID: ICPMS03_110906A			SeqNo: 2518722		Prep Date: 9/7/2011		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09527	0.010	0.1	0	95.3	80-120	0			
Antimony	0.04636	0.0050	0.05	0	92.7	80-120	0			
Arsenic	0.04687	0.0050	0.05	0	93.7	80-120	0			
Barium	0.04642	0.0050	0.05	0	92.8	80-120	0			
Cadmium	0.04574	0.0020	0.05	0	91.5	80-120	0			
Calcium	4.721	0.50	5	0	94.4	80-120	0			
Chromium	0.04644	0.0050	0.05	0	92.9	80-120	0			
Cobalt	0.04679	0.0050	0.05	0	93.6	80-120	0			
Copper	0.04745	0.0050	0.05	0	94.9	80-120	0			
Iron	4.692	0.20	5	0	93.8	80-120	0			
Lead	0.04575	0.0050	0.05	0	91.5	80-120	0			
Magnesium	4.622	0.20	5	0	92.4	80-120	0			
Manganese	0.04719	0.0050	0.05	0	94.4	80-120	0			
Molybdenum	0.04615	0.0050	0.05	0	92.3	80-120	0			
Nickel	0.04739	0.0050	0.05	0	94.8	80-120	0			
Potassium	4.64	0.20	5	0	92.8	80-120	0			
Selenium	0.047	0.0050	0.05	0	94	80-120	0			
Silver	0.04632	0.0050	0.05	0	92.6	80-120	0			
Sodium	4.62	0.20	5	0	92.4	80-120	0			
Thallium	0.04485	0.0020	0.05	0	89.7	80-120	0			
Zinc	0.04822	0.0050	0.05	0	96.4	80-120	0			

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

Client: Malcolm Pirnie
Work Order: 1109057
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55221** Instrument ID **ICPMS03** Method: **SW6020**

MS Sample ID: **1108998-02BMS** Units: **mg/L** Analysis Date: **9/7/2011 06:47 PM**

Client ID: Run ID: **ICPMS03_110906A** SeqNo: **2518728** Prep Date: **9/7/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.112	0.010	0.1	0.01726	94.7	80-120	0			
Antimony	0.04676	0.0050	0.05	0.00004321	93.4	80-120	0			
Arsenic	0.04994	0.0050	0.05	0.003587	92.7	80-120	0			
Barium	0.6639	0.0050	0.05	0.6068	114	80-120	0			O
Cadmium	0.04572	0.0020	0.05	0.000197	91	80-120	0			
Calcium	119.4	0.50	5	116.3	62	80-120	0			SO
Chromium	0.04693	0.0050	0.05	0.0006359	92.6	80-120	0			
Cobalt	0.04798	0.0050	0.05	0.002275	91.4	80-120	0			
Copper	0.04665	0.0050	0.05	0.0005215	92.3	80-120	0			
Iron	4.745	0.20	5	0.135	92.2	80-120	0			
Lead	0.04588	0.0050	0.05	0.0004579	90.8	80-120	0			
Magnesium	18.58	0.20	5	13.96	92.4	80-120	0			
Manganese	0.311	0.0050	0.05	0.268	86	80-120	0			O
Molybdenum	0.04615	0.0050	0.05	0.001152	90	80-120	0			
Nickel	0.05727	0.0050	0.05	0.01103	92.5	80-120	0			
Potassium	4.818	0.20	5	0.2112	92.1	80-120	0			
Selenium	0.04625	0.0050	0.05	0.001183	90.1	80-120	0			
Silver	0.04539	0.0050	0.05	0.000196	90.4	80-120	0			
Sodium	59.68	0.20	5	54.68	100	80-120	0			O
Thallium	0.04474	0.0020	0.05	0.0009575	87.6	80-120	0			
Zinc	0.05783	0.0050	0.05	0.009603	96.5	80-120	0			

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

Client: Malcolm Pirnie
Work Order: 1109057
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55221** Instrument ID **ICPMS03** Method: **SW6020**

MSD		Sample ID: 1108998-02BMSD				Units: mg/L		Analysis Date: 9/7/2011 06:53 PM		
Client ID:		Run ID: ICPMS03_110906A				SeqNo: 2518729		Prep Date: 9/7/2011		DF: 1
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1105	0.010	0.1	0.01726	93.2	80-120	0.112	1.35	15	
Antimony	0.04652	0.0050	0.05	0.00004321	93	80-120	0.04676	0.515	15	
Arsenic	0.05014	0.0050	0.05	0.003587	93.1	80-120	0.04994	0.4	15	
Barium	0.6715	0.0050	0.05	0.6068	129	80-120	0.6639	1.14	15	SO
Cadmium	0.04558	0.0020	0.05	0.000197	90.8	80-120	0.04572	0.307	15	
Calcium	118.6	0.50	5	116.3	46	80-120	119.4	0.672	15	SO
Chromium	0.04648	0.0050	0.05	0.0006359	91.7	80-120	0.04693	0.963	15	
Cobalt	0.04774	0.0050	0.05	0.002275	90.9	80-120	0.04798	0.501	15	
Copper	0.04562	0.0050	0.05	0.0005215	90.2	80-120	0.04665	2.23	15	
Iron	4.717	0.20	5	0.135	91.6	80-120	4.745	0.592	15	
Lead	0.04558	0.0050	0.05	0.0004579	90.2	80-120	0.04588	0.656	15	
Magnesium	18.73	0.20	5	13.96	95.4	80-120	18.58	0.804	15	
Manganese	0.3091	0.0050	0.05	0.268	82.2	80-120	0.311	0.613	15	O
Molybdenum	0.04756	0.0050	0.05	0.001152	92.8	80-120	0.04615	3.01	15	
Nickel	0.05579	0.0050	0.05	0.01103	89.5	80-120	0.05727	2.62	15	
Potassium	4.833	0.20	5	0.2112	92.4	80-120	4.818	0.311	15	
Selenium	0.04718	0.0050	0.05	0.001183	92	80-120	0.04625	1.99	15	
Silver	0.04537	0.0050	0.05	0.000196	90.3	80-120	0.04539	0.0441	15	
Sodium	59.64	0.20	5	54.68	99.2	80-120	59.68	0.067	15	O
Thallium	0.04637	0.0020	0.05	0.0009575	90.8	80-120	0.04474	3.58	15	
Zinc	0.05663	0.0050	0.05	0.009603	94.1	80-120	0.05783	2.1	15	

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

Client: Malcolm Pirnie
 Work Order: 1109057
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: 55221 Instrument ID ICPMS03 Method: SW6020

DUP Sample ID: 1108998-02BDUP Units: mg/L Analysis Date: 9/7/2011 06:35 PM

Client ID: Run ID: ICPMS03_110906A SeqNo: 2518726 Prep Date: 9/7/2011 DF: 1

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.018	0.010	0	0	0	0-0	0.01726	4.2	25	
Antimony	U	0.0050	0	0	0	0-0	0.0004321	0	25	
Arsenic	0.003513	0.0050	0	0	0	0-0	0.003587	0	25	J
Barium	0.6274	0.0050	0	0	0	0-0	0.6068	3.34	25	
Cadmium	U	0.0020	0	0	0	0-0	0.000197	0	25	
Calcium	116.1	0.50	0	0	0	0-0	116.3	0.172	25	
Chromium	U	0.0050	0	0	0	0-0	0.0006359	0	25	
Cobalt	0.002287	0.0050	0	0	0	0-0	0.002275	0	25	J
Copper	U	0.0050	0	0	0	0-0	0.0005215	0	25	
Iron	0.1321	0.20	0	0	0	0-0	0.135	0	25	J
Lead	U	0.0050	0	0	0	0-0	0.0004579	0	25	
Magnesium	14.31	0.20	0	0	0	0-0	13.96	2.48	25	
Manganese	0.2656	0.0050	0	0	0	0-0	0.268	0.9	25	
Molybdenum	U	0.0050	0	0	0	0-0	0.001152	0	25	
Nickel	0.0112	0.0050	0	0	0	0-0	0.01103	1.53	25	
Potassium	0.2156	0.20	0	0	0	0-0	0.2112	2.06	25	
Selenium	U	0.0050	0	0	0	0-0	0.001183	0	25	
Silver	U	0.0050	0	0	0	0-0	0.000196	0	25	
Sodium	55.76	0.20	0	0	0	0-0	54.68	1.96	25	
Thallium	U	0.0020	0	0	0	0-0	0.0009575	0	25	
Zinc	0.009025	0.0050	0	0	0	0-0	0.009603	6.21	25	

The following samples were analyzed in this batch:

1109057-01D

Client: Malcolm Pirnie
Work Order: 1109057
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55222** Instrument ID **ICP7500** Method: **SW6020** (**Dissolve**)

MBLK Sample ID: **MBLKW6-090711-55222** Units: **mg/L** Analysis Date: **9/8/2011 03:54 PM**

Client ID: Run ID: **ICP7500_110908A** SeqNo: **2519940** Prep Date: **9/7/2011** 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								
Silver	U	0.0050								
Thallium	U	0.0020								
Zinc	U	0.0050								

LCS Sample ID: **MLCSW6-090711-55222** Units: **mg/L** Analysis Date: **9/7/2011 10:53 PM**

Client ID: Run ID: **ICP7500_110906A** SeqNo: **2518791** Prep Date: **9/7/2011** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04906	0.0050	0.05	0	98.1	80-120	0			
Arsenic	0.05251	0.0050	0.05	0	105	80-120	0			
Barium	0.04593	0.0050	0.05	0	91.9	80-120	0			
Cadmium	0.0457	0.0020	0.05	0	91.4	80-120	0			
Chromium	0.0529	0.0050	0.05	0	106	80-120	0			
Cobalt	0.0531	0.0050	0.05	0	106	80-120	0			
Copper	0.05346	0.0050	0.05	0	107	80-120	0			
Iron	5.34	0.20	5	0	107	80-120	0			
Lead	0.04648	0.0050	0.05	0	93	80-120	0			
Molybdenum	0.04429	0.0050	0.05	0	88.6	80-120	0			
Nickel	0.05346	0.0050	0.05	0	107	80-120	0			
Selenium	0.05275	0.0050	0.05	0	106	80-120	0			
Silver	0.05073	0.0050	0.05	0	101	80-120	0			
Thallium	0.04574	0.0020	0.05	0	91.5	80-120	0			
Zinc	0.05387	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: 1109057
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: 55222 Instrument ID ICP7500 Method: SW6020 (Dissolve)

MS Sample ID: 11081001-01AMS Units: mg/L Analysis Date: 9/7/2011 11:10 PM

Client ID: Run ID: ICP7500_110906A SeqNo: 2518794 Prep Date: 9/7/2011 DF: 1

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.0458	0.0050	0.05	0.0003689	90.9	75-125	0			
Arsenic	0.05077	0.0050	0.05	0.001471	98.6	75-125	0			
Barium	0.1599	0.0050	0.05	0.1076	105	75-125	0			
Cadmium	0.04658	0.0020	0.05	0.000598	92	75-125	0			
Chromium	0.04867	0.0050	0.05	0.001417	94.5	75-125	0			
Cobalt	0.05067	0.0050	0.05	0.002498	96.3	75-125	0			
Copper	0.04915	0.0050	0.05	0.0009875	96.3	75-125	0			
Iron	4.927	0.20	5	0.006855	98.4	75-125	0			
Lead	0.0468	0.0050	0.05	0.0007825	92	75-125	0			
Molybdenum	0.04918	0.0050	0.05	0.003811	90.7	75-125	0			
Nickel	0.05212	0.0050	0.05	0.004083	96.1	75-125	0			
Selenium	0.05102	0.0050	0.05	0.002311	97.4	75-125	0			
Silver	0.0446	0.0050	0.05	-0.0000233	89.2	75-125	0			
Thallium	0.04652	0.0020	0.05	0.001152	90.7	75-125	0			
Zinc	0.04983	0.0050	0.05	0.001457	96.7	75-125	0			

MSD Sample ID: 11081001-01AMSD Units: mg/L Analysis Date: 9/7/2011 11:16 PM

Client ID: Run ID: ICP7500_110906A SeqNo: 2518795 Prep Date: 9/7/2011 DF: 1

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04593	0.0050	0.05	0.0003689	91.1	75-125	0.0458	0.283	25	
Arsenic	0.0511	0.0050	0.05	0.001471	99.3	75-125	0.05077	0.648	25	
Barium	0.1645	0.0050	0.05	0.1076	114	75-125	0.1599	2.84	25	
Cadmium	0.04694	0.0020	0.05	0.000598	92.7	75-125	0.04658	0.77	25	
Chromium	0.04876	0.0050	0.05	0.001417	94.7	75-125	0.04867	0.185	25	
Cobalt	0.04962	0.0050	0.05	0.002498	94.2	75-125	0.05067	2.09	25	
Copper	0.04822	0.0050	0.05	0.0009875	94.5	75-125	0.04915	1.91	25	
Iron	4.974	0.20	5	0.006855	99.3	75-125	4.927	0.949	25	
Lead	0.04807	0.0050	0.05	0.0007825	94.6	75-125	0.0468	2.68	25	
Molybdenum	0.04953	0.0050	0.05	0.003811	91.4	75-125	0.04918	0.709	25	
Nickel	0.05084	0.0050	0.05	0.004083	93.5	75-125	0.05212	2.49	25	
Selenium	0.05013	0.0050	0.05	0.002311	95.6	75-125	0.05102	1.76	25	
Silver	0.04483	0.0050	0.05	-0.0000233	89.7	75-125	0.0446	0.514	25	
Thallium	0.04767	0.0020	0.05	0.001152	93	75-125	0.04652	2.44	25	
Zinc	0.0501	0.0050	0.05	0.001457	97.3	75-125	0.04983	0.54	25	

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

Client: Malcolm Pirnie
Work Order: 1109057
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55222** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

DUP Sample ID: **11081001-01ADUP** Units: **mg/L** Analysis Date: **9/7/2011 11:05 PM**

Client ID: Run ID: **ICP7500_110906A** SeqNo: **2518793** Prep Date: **9/7/2011** DF: **1**

Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	U	0.0050	0	0	0	0-0	0.0003689	0	25	
Arsenic	0.001762	0.0050	0	0	0	0-0	0.001471	0	25	J
Barium	0.1154	0.0050	0	0	0	0-0	0.1076	7	25	
Cadmium	U	0.0020	0	0	0	0-0	0.000598	0	25	
Chromium	U	0.0050	0	0	0	0-0	0.001417	0	25	
Cobalt	0.002743	0.0050	0	0	0	0-0	0.002498	0	25	J
Copper	U	0.0050	0	0	0	0-0	0.0009875	0	25	
Iron	U	0.20	0	0	0	0-0	0.006855	0	25	
Lead	0.0007583	0.0050	0	0	0	0-0	0.0007825	0	25	J
Molybdenum	0.004007	0.0050	0	0	0	0-0	0.003811	0	25	J
Nickel	0.003811	0.0050	0	0	0	0-0	0.004083	0	25	J
Selenium	0.002846	0.0050	0	0	0	0-0	0.002311	0	25	J
Silver	U	0.0050	0	0	0	0-0	-0.0000233	0	25	
Thallium	U	0.0020	0	0	0	0-0	0.001152	0	25	
Zinc	U	0.0050	0	0	0	0-0	0.001457	0	25	

The following samples were analyzed in this batch:

1109057-01C

Client: Malcolm Pirnie
 Work Order: 1109057
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **55257** Instrument ID **Mercury** Method: **SW7470** (Dissolve)

MBLK	Sample ID: GBLKW3-090811-55257					Units: mg/L	Analysis Date: 9/8/2011 03:39 PM			
Client ID:		Run ID: MERCURY_110908A			SeqNo: 2519795	Prep Date: 9/8/2011	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: GLCSW3-090811-55257					Units: mg/L	Analysis Date: 9/8/2011 03:41 PM			
Client ID:		Run ID: MERCURY_110908A			SeqNo: 2519796	Prep Date: 9/8/2011	DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00487	0.00020	0.005	0	97.4	80-120	0			

MS	Sample ID: 1109057-01CMS					Units: mg/L	Analysis Date: 9/8/2011 03:47 PM			
Client ID: QA090111		Run ID: MERCURY_110908A			SeqNo: 2519800	Prep Date: 9/8/2011	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	0.000256	96.7	80-120	0			

MSD	Sample ID: 1109057-01CMSD					Units: mg/L	Analysis Date: 9/8/2011 03:49 PM			
Client ID: QA090111		Run ID: MERCURY_110908A			SeqNo: 2519812	Prep Date: 9/8/2011	DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00512	0.00020	0.005	0.000256	97.3	80-120	0.00509	0.588	20	

DUP	Sample ID: 1109057-01CDUP					Units: mg/L	Analysis Date: 9/8/2011 03:45 PM			
Client ID: QA090111		Run ID: MERCURY_110908A			SeqNo: 2519798	Prep Date: 9/8/2011	DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00027	0.00020	0	0	0	0-0	0.000256	5.32	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: 1109057
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R115675** Instrument ID **BALANCE1** Method: **M2540C**

MBLK		Sample ID: BLANK-R115675				Units: mg/L		Analysis Date: 9/2/2011 12:00 PM		
Client ID:		Run ID: BALANCE1_110902F				SeqNo: 2516210		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-R115675				Units: mg/L		Analysis Date: 9/2/2011 12:00 PM		
Client ID:		Run ID: BALANCE1_110902F				SeqNo: 2516212		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	1016	10	1000	0	102	85-115	0			

DUP		Sample ID: 11081011-01ADUPZ				Units: mg/L		Analysis Date: 9/2/2011 12:00 PM		
Client ID:		Run ID: BALANCE1_110902F				SeqNo: 2516182		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	894	10	0	0	0	0-0	946	5.65	20	

DUP		Sample ID: 11081018-01IDUP				Units: mg/L		Analysis Date: 9/2/2011 12:00 PM		
Client ID:		Run ID: BALANCE1_110902F				SeqNo: 2516187		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	654	10	0	0	0	0-0	716	9.05	20	

The following samples were analyzed in this batch: 1109057-01E

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

Client: Malcolm Pirnie
 Work Order: 1109057
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R115690** Instrument ID **ICS3000** Method: **E300**

MBLK Sample ID: **WBLKW2-090211-R115690** Units: **mg/L** Analysis Date: **9/2/2011 07:04 PM**

Client ID: Run ID: **ICS3000_110902B** SeqNo: **2516503** Prep Date: DF: **1**

Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	U	0.10								
Chloride	U	0.50								
Fluoride	U	0.10								
Nitrogen, Nitrate (As N)	U	0.10								
Nitrogen, Nitrite (As N)	U	0.10								
Nitrate/Nitrite (as N)	U	0.20								
Surr: Selenate (surr)	4.606	0.10	5	0	92.1	85-115	0			

LCSD Sample ID: **WLCSDW2-090211-R115690** Units: **mg/L** Analysis Date: **9/2/2011 07:25 PM**

Client ID: Run ID: **ICS3000_110902B** SeqNo: **2516504** Prep Date: DF: **1**

Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.898	0.10	4	0	97.4	90-110	0			
Chloride	20.1	0.50	20	0	100	90-110	0			
Fluoride	3.862	0.10	4	0	96.6	90-110	0			
Nitrogen, Nitrate (As N)	4.154	0.10	4	0	104	90-110	0			
Nitrogen, Nitrite (As N)	3.972	0.10	4	0	99.3	90-110	0			
Nitrate/Nitrite (as N)	8.126	0.20	8	0	102	90-110	0			
Surr: Selenate (surr)	5.272	0.10	5	0	105	85-115	0			

LCSD Sample ID: **WLCSDW2-090211-R115690** Units: **mg/L** Analysis Date: **9/2/2011 07:47 PM**

Client ID: Run ID: **ICS3000_110902B** SeqNo: **2516505** Prep Date: DF: **1**

Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.899	0.10	4	0	97.5	90-110	0			
Chloride	20.51	0.50	20	0	103	90-110	0			
Fluoride	3.855	0.10	4	0	96.4	90-110	0			
Nitrogen, Nitrate (As N)	4.151	0.10	4	0	104	90-110	0			
Nitrogen, Nitrite (As N)	3.972	0.10	4	0	99.3	90-110	0			
Nitrate/Nitrite (as N)	8.123	0.20	8	0	102	90-110	0			
Surr: Selenate (surr)	5.298	0.10	5	0	106	85-115	0			

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

Client: Malcolm Pirnie
 Work Order: 1109057
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: R115690 Instrument ID ICS3000 Method: E300

MS		Sample ID: 1109058-01AMS			Units: mg/L			Analysis Date: 9/2/2011 08:31 PM		
Client ID:		Run ID: ICS3000_110902B			SeqNo: 2516507		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.375	0.10	2	0.463	95.6	80-120	0			
Chloride	23.18	0.50	10	13.32	98.5	80-120	0			
Fluoride	1.929	0.10	2	0	96.4	80-120	0			
Nitrogen, Nitrate (As N)	2.018	0.10	2	2.558	-27	80-120	0			S
Nitrogen, Nitrite (As N)	2.001	0.10	2	0	100	80-120	0			
Nitrate/Nitrite (as N)	4.019	0.20	4	2.558	36.5	80-120	0			S
Surr: Selenate (surr)	5.608	0.10	5	0	112	85-115	0			

MSD		Sample ID: 1109058-01AMSD			Units: mg/L			Analysis Date: 9/2/2011 08:52 PM		
Client ID:		Run ID: ICS3000_110902B			SeqNo: 2516508		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.378	0.10	2	0.463	95.8	80-120	2.375	0.126	20	
Chloride	23.19	0.50	10	13.32	98.7	80-120	23.18	0.0647	20	
Fluoride	1.918	0.10	2	0	95.9	80-120	1.929	0.572	20	
Nitrogen, Nitrate (As N)	2.02	0.10	2	2.558	-26.9	80-120	2.018	0.0991	20	S
Nitrogen, Nitrite (As N)	1.997	0.10	2	0	99.8	80-120	2.001	0.2	20	
Nitrate/Nitrite (as N)	4.017	0.20	4	2.558	36.5	80-120	4.019	0.0498	20	S
Surr: Selenate (surr)	5.654	0.10	5	0	113	85-115	5.608	0.817	20	

The following samples were analyzed in this batch:

1109057-01E

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

Client: Malcolm Pirnie
Work Order: 1109057
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R115719** Instrument ID **WetChem** Method: **SM4500 S2-F**

MBLK Sample ID: **WBLKW1-090611-R115719** Units: **mg/L** Analysis Date: **9/6/2011 04:50 PM**

Client ID: Run ID: **WETCHEM_110906J** SeqNo: **2517272** 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								

The following samples were analyzed in this batch:

Client: Malcolm Pirnie
Work Order: 1109057
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R115778** Instrument ID **TOC_02** Method: **SM5310C**

MBLK		Sample ID: WBLKW1-090711-R115778				Units: mg/L		Analysis Date: 9/7/2011 07:41 PM		
Client ID:		Run ID: TOC_02_110907B				SeqNo: 2519117		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	0.2369	0.50								J

LCS		Sample ID: WLCSW1-090711-R115778				Units: mg/L		Analysis Date: 9/7/2011 07:54 PM		
Client ID:		Run ID: TOC_02_110907B				SeqNo: 2519118		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	9.762	0.50	10	0	97.6	80-120	0			

LCSD		Sample ID: WLCSDW1-090711-R115778				Units: mg/L		Analysis Date: 9/7/2011 08:07 PM		
Client ID:		Run ID: TOC_02_110907B				SeqNo: 2519119		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	9.757	0.50	10	0	97.6	80-120	9.762	0.0512	20	

MS		Sample ID: 1108849-01BMS				Units: mg/L		Analysis Date: 9/7/2011 08:57 PM		
Client ID:		Run ID: TOC_02_110907B				SeqNo: 2519122		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	15.11	0.50	10	5.561	95.5	80-120	0			

MSD		Sample ID: 1108849-01BMSD				Units: mg/L		Analysis Date: 9/7/2011 09:10 PM		
Client ID:		Run ID: TOC_02_110907B				SeqNo: 2519124		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	14.97	0.50	10	5.561	94.1	80-120	15.11	0.931	20	

The following samples were analyzed in this batch: 1109057-01A

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

Client: Malcolm Pirnie
Work Order: 1109057
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R115804** Instrument ID **BALANCE1** Method: **M2540D**

MBLK Sample ID: **WBLK-090711-R115804** Units: **mg/L** Analysis Date: **9/7/2011 12:00 PM**

Client ID: Run ID: **BALANCE1_110907E** SeqNo: **2519469** 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-090711-R115804** Units: **mg/L** Analysis Date: **9/7/2011 12:00 PM**

Client ID: Run ID: **BALANCE1_110907E** SeqNo: **2519470** 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	91.33	2.0	100		0	91.3	78-120	0		

DUP Sample ID: **1109004-01ADUP** Units: **mg/L** Analysis Date: **9/7/2011 12:00 PM**

Client ID: Run ID: **BALANCE1_110907E** SeqNo: **2519456** 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	20	2.0	0		0	0	0-0	18.5	7.79	20

The following samples were analyzed in this batch: 1109057-01E

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

Client: Malcolm Pirnie
 Work Order: 1109057
 Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R115854** Instrument ID **ICS3000** Method: **E300**

MBLK		Sample ID: WBLKW1-090811-R115854			Units: mg/L			Analysis Date: 9/8/2011 11:45 AM		
Client ID:		Run ID: ICS3000_110908A			SeqNo: 2520462		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	U	0.50								
<i>Surr: Selenate (surr)</i>	4.995	0.10	5	0	99.9	85-115	0			

LCS		Sample ID: WLCSW1-090811-R115854			Units: mg/L			Analysis Date: 9/8/2011 11:23 AM		
Client ID:		Run ID: ICS3000_110908A			SeqNo: 2520461		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	18.38	0.50	20	0	91.9	90-110	0			
<i>Surr: Selenate (surr)</i>	5.64	0.10	5	0	113	85-115	0			

LCSD		Sample ID: WLCSDW1-090811-R115854			Units: mg/L			Analysis Date: 9/8/2011 12:06 PM		
Client ID:		Run ID: ICS3000_110908A			SeqNo: 2520464		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	18.17	0.50	20	0	90.9	90-110	18.38	1.12	20	
<i>Surr: Selenate (surr)</i>	5.544	0.10	5	0	111	85-115	5.64	1.72	20	

MS		Sample ID: 1109206-01EMS			Units: mg/L			Analysis Date: 9/8/2011 01:22 PM		
Client ID:		Run ID: ICS3000_110908A			SeqNo: 2520467		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	971	0.50	10	998.7	-278	80-120	0			SEO
<i>Surr: Selenate (surr)</i>	5.676	0.10	5	0	114	85-115	0			

MSD		Sample ID: 1109206-01EMSD			Units: mg/L			Analysis Date: 9/8/2011 01:43 PM		
Client ID:		Run ID: ICS3000_110908A			SeqNo: 2520469		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	985.4	0.50	10	998.7	-133	80-120	971	1.48	20	SEO
<i>Surr: Selenate (surr)</i>	5.562	0.10	5	0	111	85-115	5.676	2.03	20	

The following samples were analyzed in this batch: 1109057-01E

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

Client: Malcolm Pirnie
Work Order: 1109057
Project: El Paso Smelter

QC BATCH REPORT

Batch ID: **R115882** Instrument ID **WetChem** Method: **SM2320B**

MBLK Sample ID: **WBLKW1-090911-R115882** Units: **mg/L** Analysis Date: **9/9/2011 09:56 AM**

Client ID: Run ID: **WETCHEM_110909A** SeqNo: **2521026** 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: **WLCSW1-090911-R115882** Units: **mg/L** Analysis Date: **9/9/2011 09:56 AM**

Client ID: Run ID: **WETCHEM_110909A** SeqNo: **2521027** 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)	1030	5.0	1000	0	103	80-120	0			

DUP Sample ID: **1109057-01EDUP** Units: **mg/L** Analysis Date: **9/9/2011 09:56 AM**

Client ID: **QA090111** Run ID: **WETCHEM_110909A** SeqNo: **2521029** 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)	288.8	5.0	0	0	0	0-0	288.1	0.215	20	

The following samples were analyzed in this batch:

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

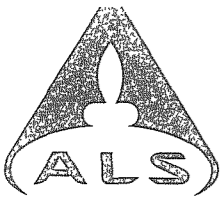
Client: Malcolm Pirnie
Project: El Paso Smelter
WorkOrder: 1109057

**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



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Chain of Custody Form

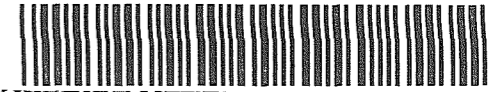
1109057

MALCOLM PIRNIE-EL PASO: Malcolm Pirnie

Project: El Paso Smelter

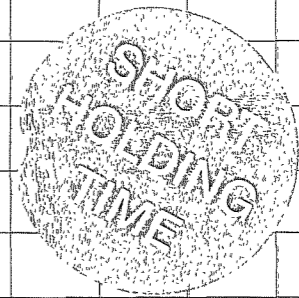
Page 1 of 1

ALS Project Manager:



Customer Information		Project Information		Parameters	
Purchase Order		Project Name	EIPASO Smelter	A	Total Diss. (6020): Sb, As, Ba, Cd, Cr, Co, Cu, Fe, Pb, Mo, Ni, Se, Ti, Zn, Ag
Work Order		Project Number	6835001	B	Total Diss Hg (7470)
Company Name	Malcolm Pirnie	Bill To Company	Malcolm Pirnie	C	Total CATIONS (6010): Al, Ca, Mg, K, Na, Mn
Send Report To	Marla Miller	Invoice Attn	Marla Miller	D	Anions (3000): Chloride, Sulfate, Nitrate/Nitrite
Address	211 N. 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	QA090111	9/1/11	945	W		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 pm job		Shipment Method FEDEX		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour <input type="checkbox"/> Other _____				Results Due Date:	
Relinquished by: Doug Solon job	Date: 9/1/11	Time: 1500	Received by: [Signature]		Notes:				
Relinquished by:	Date:	Time:	Received by (Laboratory): [Signature]		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	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035					<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 _____				

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.

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Sample Receipt Checklist

Client Name: **MALCOLM PIRNIE-EL PASO**

Date/Time Received: **02-Sep-11 09:00**

Work Order: **1109057**

Received by: **RNG**

Checklist completed by Robert D. Harris 02-Sep-11
eSignature Date

Reviewed by: Lithany Agarwal 02-Sep-11
eSignature Date

Matrices: waters

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): 3.8c 002

Cooler(s)/Kit(s): 3939

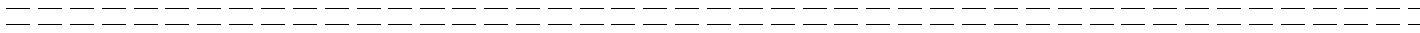
Water - VOA vials have zero headspace? Yes No No VOA vials submitted

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: _____

1169057



NEW Package
US AIRMAIL

FedEx
Tracking
Number

8768 2279 1452

Form ID No. 0200

From _____
Date _____

Sender's Name _____ Phone _____

Company _____

Address _____ Dept./Floor/Suite/Room _____

City _____ State _____ ZIP _____

Your Internal Billing Reference _____

To Recipient's Name _____ Phone _____

Company _____

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

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

City _____ State _____ ZIP _____



8768 2279 1452

TRACEANALYSIS, INC.

CUSTODY SEAL

Date _____
Signature _____

4 Express Package Service * To most locations.
NOTE: Service order has changed. Please select carefully. Packages up to 150 lbs. For packages over 150 lbs., use the new FedEx Express Freight US Airbill.

- Next Business Day**
- FedEx First Overnight
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 - FedEx Priority Overnight
Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 - FedEx Standard Overnight
Next business afternoon.* Saturday Delivery NOT available.
- 2 or 3 Business Days**
- NEW FedEx 2Day A.M.
Second business morning.* Saturday Delivery NOT available.
 - FedEx 2Day
Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 - FedEx Express Saver
Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit \$500.

6 Special Handling and Delivery Signature Options

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

Does this shipment contain dangerous goods?
One per package maximum.
 No Yes As per attached Shipper's Declaration Yes Shipper's Declaration not required Dry Ice Dry Ice, 9, 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.
 Sender Acct. No. in Section 1 will be billed. Recipient Third Party Credit Card Cash/Check
Total Packages _____ Total Weight _____ lbs Total Declared Value* \$ _____ Credit Card Auth. _____

*Our liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details. Rev. Date 11/10 • Part #163136 • ©1994-2010 FedEx • PRINTED IN U.S.A. SRY

7-7-11
Dan Jol

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