



23-Mar-2011

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

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

Re: El Paso Smelter

Work Order: **1103272**

Dear Marla,

ALS Environmental received 1 sample on 09-Mar-2011 09:45 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 42.

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

Sincerely,

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

Electronically approved by: Glenda H. Ramos

JayLynn F Thibault  
Project Manager



Certificate No: TX: T104704231-10-3

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

DOV#J UR X S#K VD /# R US##Sduw#k i#kh#DOV#Dde r#d#wru|#J urxs#D #F dp eeh#Eurwkhuv#Dp w#g#F rp sdq|

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**Client:** Malcolm Pirnie  
**Project:** El Paso Smelter  
**Work Order:** 1103272

**Work Order Sample Summary**

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<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>
1103272-01	QA030811	Water		3/8/2011 13:15	3/9/2011 09:45	<input type="checkbox"/>

## ALS Environmental

Date: 23-Mar-11

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**Client:** Malcolm Pirnie  
**Project:** El Paso Smelter  
**Work Order:** 1103272

## Case Narrative

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Batch 50928 Metals (sample 1103158-08) MS/MSD unrelated sample.

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

# ALS Environmental

Date: 23-Mar-11

Client: Malcolm Pirnie  
 Project: El Paso Smelter  
 Sample ID: QA030811  
 Collection Date: 3/8/2011 01:15 PM

Work Order: 1103272  
 Lab ID: 1103272-01  
 Matrix: WATER

Analyses	Result	Qual	SDL	MLL	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED MERCURY</b>			Method: SW7470		Prep: SW7470 / 3/23/11		Analyst: <b>OFO</b>
Mercury	0.00314		0.000042	0.000200	mg/L	1	3/23/2011 15:24
<b>MERCURY</b>			Method: SW7470		Prep: SW7470 / 3/21/11		Analyst: <b>OFO</b>
Mercury		U	0.000042	0.000200	mg/L	1	3/21/2011 16:46
<b>DISSOLVED METALS</b>			Method: SW6020		Prep: SW3010A / 3/18/11		Analyst: <b>ALR</b>
Antimony	0.000967	J	0.00050	0.00500	mg/L	1	3/22/2011 02:39
Arsenic	0.0900		0.00090	0.00500	mg/L	1	3/22/2011 02:39
Barium	0.0576		0.00070	0.00500	mg/L	1	3/22/2011 02:39
Cadmium		U	0.00060	0.00200	mg/L	1	3/22/2011 02:39
Chromium		U	0.00060	0.00500	mg/L	1	3/22/2011 02:39
Cobalt		U	0.00050	0.00500	mg/L	1	3/22/2011 02:39
Copper	0.00232	J	0.00050	0.00500	mg/L	1	3/22/2011 02:39
Iron		U	0.036	0.200	mg/L	1	3/22/2011 02:39
Lead	0.000842	J	0.00040	0.00500	mg/L	1	3/22/2011 02:39
Molybdenum	0.101		0.00060	0.00500	mg/L	1	3/22/2011 02:39
Nickel	0.00382	J	0.0014	0.00500	mg/L	1	3/22/2011 02:39
Selenium	0.00710		0.0025	0.00500	mg/L	1	3/22/2011 02:39
Thallium		U	0.00080	0.00200	mg/L	1	3/22/2011 02:39
Zinc	0.00680		0.0025	0.00500	mg/L	1	3/22/2011 02:39
<b>METALS</b>			Method: SW6020		Prep: SW3010A / 3/18/11		Analyst: <b>ALR</b>
Aluminum	0.950		0.0037	0.0100	mg/L	1	3/19/2011 02:05
Antimony	0.000732	J	0.00050	0.00500	mg/L	1	3/19/2011 02:05
Arsenic	0.108		0.00090	0.00500	mg/L	1	3/19/2011 02:05
Barium	0.0719		0.00070	0.00500	mg/L	1	3/19/2011 02:05
Cadmium		U	0.00060	0.00200	mg/L	1	3/19/2011 02:05
Calcium	143		0.050	0.500	mg/L	1	3/19/2011 02:05
Chromium	0.000810	J	0.00060	0.00500	mg/L	1	3/19/2011 02:05
Cobalt		U	0.00050	0.00500	mg/L	1	3/19/2011 02:05
Copper	0.00846		0.00050	0.00500	mg/L	1	3/19/2011 02:05
Iron	0.925		0.036	0.200	mg/L	1	3/19/2011 02:05
Lead	0.00774		0.00040	0.00500	mg/L	1	3/19/2011 02:05
Magnesium	70.4		0.039	0.200	mg/L	1	3/19/2011 02:05
Manganese	0.593		0.00080	0.00500	mg/L	1	3/19/2011 02:05
Molybdenum	0.110		0.00060	0.00500	mg/L	1	3/19/2011 02:05
Nickel	0.00354	J	0.0014	0.00500	mg/L	1	3/19/2011 02:05
Potassium	21.7		0.10	0.200	mg/L	1	3/19/2011 02:05
Selenium	0.00656		0.0025	0.00500	mg/L	1	3/19/2011 02:05
Sodium	803		10	20.0	mg/L	100	3/21/2011 18:49

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

# ALS Environmental

Date: 23-Mar-11

Client: Malcolm Pirnie  
 Project: El Paso Smelter  
 Sample ID: QA030811  
 Collection Date: 3/8/2011 01:15 PM

Work Order: 1103272  
 Lab ID: 1103272-01  
 Matrix: WATER

Analyses	Result	Qual	SDL	MLL	Units	Dilution Factor	Date Analyzed
Thallium		U	0.00080	0.00200	mg/L	1	3/19/2011 02:05
Zinc	0.0274		0.0025	0.00500	mg/L	1	3/19/2011 02:05
<b>ANIONS</b>		Method: E300				Analyst: TDW	
Chloride	530		10.0	25.0	mg/L	50	3/10/2011 13:06
Fluoride	1.51		0.0500	0.100	mg/L	1	3/10/2011 12:45
Nitrogen, Nitrate (As N)	0.382		0.0300	0.100	mg/L	1	3/10/2011 12:45
Nitrogen, Nitrite (As N)	0.138		0.0300	0.100	mg/L	1	3/10/2011 12:45
Sulfate	941		25.0	25.0	mg/L	50	3/10/2011 13:06
Nitrate/Nitrite (as N)	0.520		0.0300	0.100	mg/L	1	3/10/2011 12:45
Surr: Selenate (surr)	114			85-115	%REC	1	3/10/2011 12:45
Surr: Selenate (surr)	107			85-115	%REC	50	3/10/2011 13:06
<b>ALKALINITY</b>		Method: SM2320B				Analyst: DM	
Alkalinity, Total (As CaCO3)	256		2.0	5.00	mg/L	1	3/21/2011 13:45
<b>SULFIDE</b>		Method: SM4500 S2-F				Analyst: JKP	
Sulfide	5.80		0.50	1.00	mg/L	1	3/14/2011 11:00
<b>TOTAL DISSOLVED SOLIDS</b>		Method: M2540C				Analyst: JKP	
Total Dissolved Solids (Residue, Filterable)	2,860		5.0	10.0	mg/L	1	3/14/2011 11:00
<b>TOTAL ORGANIC CARBON</b>		Method: SM5310C				Analyst: JKP	
Organic Carbon, Total	8.39		0.10	0.500	mg/L	1	3/13/2011 01:41
<b>TOTAL SUSPENDED SOLIDS</b>		Method: M2540D				Analyst: JKP	
Suspended Solids (Residue, Non-Filterable)	92.8		2.00	2.00	mg/L	1	3/14/2011 11:00

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

Work Order: 1103272  
 Client: Malcolm Pirnie  
 Project: El Paso Smelter

**DATES REPORT**

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<b><u>Batch ID</u> 50922      <u>Test Name:</u> Mercury</b>						
1103272-01B	QA030811	Water	3/8/2011 1:15:00 PM		3/21/2011 01:00 PM	3/21/2011 04:46 PM
<b><u>Batch ID</u> 50927      <u>Test Name:</u> Dissolved Metals</b>						
1103272-01C	QA030811	Water	3/8/2011 1:15:00 PM		3/18/2011 09:00 PM	3/22/2011 02:39 AM
<b><u>Batch ID</u> 50928      <u>Test Name:</u> Metals</b>						
1103272-01B	QA030811	Water	3/8/2011 1:15:00 PM		3/18/2011 09:00 PM 3/18/2011 09:00 PM	3/19/2011 02:05 AM 3/21/2011 06:49 PM
<b><u>Batch ID</u> 51003      <u>Test Name:</u> Dissolved Mercury</b>						
1103272-01C	QA030811	Water	3/8/2011 1:15:00 PM		3/23/2011 01:30 PM	3/23/2011 03:24 PM
<b><u>Batch ID</u> R106646      <u>Test Name:</u> Anions</b>						
1103272-01E	QA030811	Water	3/8/2011 1:15:00 PM			3/10/2011 12:45 PM 3/10/2011 01:06 PM
<b><u>Batch ID</u> R106735      <u>Test Name:</u> Total Organic Carbon</b>						
1103272-01A	QA030811	Water	3/8/2011 1:15:00 PM			3/13/2011 01:41 AM
<b><u>Batch ID</u> R106851      <u>Test Name:</u> Total Suspended Solids</b>						
1103272-01E	QA030811	Water	3/8/2011 1:15:00 PM			3/14/2011 11:00 AM
<b><u>Batch ID</u> R106857      <u>Test Name:</u> Total Dissolved Solids</b>						
1103272-01E	QA030811	Water	3/8/2011 1:15:00 PM			3/14/2011 11:00 AM
<b><u>Batch ID</u> R106866      <u>Test Name:</u> Sulfide</b>						
1103272-01D	QA030811	Water	3/8/2011 1:15:00 PM			3/14/2011 11:00 AM

**Work Order:** 1103272  
**Client:** Malcolm Pirnie  
**Project:** El Paso Smelter

**DATES REPORT**

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<b>Batch ID</b> R107113 <b>Test Name:</b> Alkalinity						
1103272-01E	QA030811	Water	3/8/2011 1:15:00 PM			3/21/2011 01:45 PM

WorkOrder: 1103272  
InstrumentID: Balance1  
Test Code: TDS\_W 2540C  
Test Number: M2540C  
Test Name: Total Dissolved Solids

**METHOD DETECTION /  
REPORTING LIMITS**

Matrix: Aqueous      Units: mg/L

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



WorkOrder: 1103272  
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:** 1103272  
**InstrumentID:** ICPMS03  
**Test Code:** ICP\_DISS  
**Test Number:** SW6020  
**Test Name:** Dissolved Metals

**METHOD DETECTION /  
 REPORTING LIMITS**

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

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

**WorkOrder:** 1103272  
**InstrumentID:** ICPMS03  
**Test Code:** ICP\_TW  
**Test Number:** SW6020  
**Test Name:** Metals

**METHOD DETECTION /  
REPORTING LIMITS**

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

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

WorkOrder: 1103272  
InstrumentID: ICS3000  
Test Code: 300\_W  
Test Number: E300  
Test Name: Anions

**METHOD DETECTION /  
REPORTING LIMITS**

Matrix: Aqueous      Units: mg/L

Type	Analyte	CAS	DCS	MDL	Unadjusted MQL
A	Chloride	16887-00-6	0.642	0.200	0.500
A	Fluoride	16984-48-8	0.0420	0.0500	0.100
A	Nitrogen, Nitrate (As N)	7631-99-4	0.128	0.0300	0.100
A	Nitrogen, Nitrite (As N)	7632-00-0	0.0520	0.0300	0.100
A	Sulfate	14808-79-8	0.129	0.500	0.500
M	Nitrate/Nitrite (as N)	7727-37-9	0.180	0.0300	0.100
S	Surr: Selenate (surr)	10102-23-5	0	0.100	0.100

WorkOrder: 1103272  
InstrumentID: Mercury  
Test Code: HG\_DISS  
Test Number: SW7470  
Test Name: Dissolved Mercury

**METHOD DETECTION /  
REPORTING LIMITS**

Matrix: Aqueous      Units: mg/L

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

**WorkOrder:** 1103272  
**InstrumentID:** Mercury  
**Test Code:** HG\_W  
**Test Number:** SW7470  
**Test Name:** Mercury

**METHOD DETECTION /  
REPORTING LIMITS**

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

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

**WorkOrder:** 1103272  
**InstrumentID:** TOC\_W  
**Test Code:** TOC\_W 5310C  
**Test Number:** SM5310C  
**Test Name:** Total Organic Carbon

**METHOD DETECTION /  
REPORTING LIMITS**

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

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

WorkOrder: 1103272  
InstrumentID: WetChem  
Test Code: ALK\_W 2320B  
Test Number: SM2320B  
Test Name: Alkalinity

**METHOD DETECTION /  
REPORTING LIMITS**

Matrix: Aqueous      Units: mg/L

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



**WorkOrder:** 1103272  
**InstrumentID:** WetChem  
**Test Code:** SULFD\_4500S F  
**Test Number:** SM4500 S2-F  
**Test Name:** Sulfide

**METHOD DETECTION /  
REPORTING LIMITS**

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

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

ALS Environmental

Date: 23-Mar-11

**Client:** Malcolm Pirnie  
**Work Order:** 1103272  
**Project:** El Paso Smelter

**QC BATCH REPORT**

Batch ID: **50922** Instrument ID **Mercury** Method: **SW7470**

<b>MBLK</b>	Sample ID: <b>GBLKW2-032111-50922</b>			Units: <b>mg/L</b>		Analysis Date: <b>3/21/2011 04:10 PM</b>				
Client ID:	Run ID: <b>MERCURY_110321A</b>			SeqNo: <b>2319428</b>		Prep Date: <b>3/21/2011</b>		DF: <b>1</b>		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.00020								

<b>LCS</b>	Sample ID: <b>GLCSW2-032111-50922</b>			Units: <b>mg/L</b>		Analysis Date: <b>3/21/2011 04:12 PM</b>				
Client ID:	Run ID: <b>MERCURY_110321A</b>			SeqNo: <b>2319429</b>		Prep Date: <b>3/21/2011</b>		DF: <b>1</b>		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00472	0.00020	0.005	0	94.4	85-115	0			

<b>MS</b>	Sample ID: <b>1103158-08GMS</b>			Units: <b>mg/L</b>		Analysis Date: <b>3/21/2011 04:18 PM</b>				
Client ID:	Run ID: <b>MERCURY_110321A</b>			SeqNo: <b>2319432</b>		Prep Date: <b>3/21/2011</b>		DF: <b>1</b>		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00485	0.00020	0.005	-0.000015	97.3	85-115	0			

<b>MSD</b>	Sample ID: <b>1103158-08GMSD</b>			Units: <b>mg/L</b>		Analysis Date: <b>3/21/2011 04:20 PM</b>				
Client ID:	Run ID: <b>MERCURY_110321A</b>			SeqNo: <b>2319433</b>		Prep Date: <b>3/21/2011</b>		DF: <b>1</b>		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00491	0.00020	0.005	-0.000015	98.5	85-115	0.00485	1.23	20	

<b>DUP</b>	Sample ID: <b>1103158-08GDUP</b>			Units: <b>mg/L</b>		Analysis Date: <b>3/21/2011 04:16 PM</b>				
Client ID:	Run ID: <b>MERCURY_110321A</b>			SeqNo: <b>2319431</b>		Prep Date: <b>3/21/2011</b>		DF: <b>1</b>		
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	-0.000015	0	20	

The following samples were analyzed in this batch: 1103272-01B

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

Client: Malcolm Pirnie  
 Work Order: 1103272  
 Project: El Paso Smelter

# QC BATCH REPORT

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

MBLK		Sample ID: <b>MBLKW3-031811-50927</b>				Units: <b>mg/L</b>		Analysis Date: <b>3/21/2011 11:26 PM</b>		
Client ID:		Run ID: <b>ICPMS03_110321A</b>				SeqNo: <b>2319820</b>		Prep Date: <b>3/18/2011</b>		DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	U	0.0050								
Arsenic	U	0.0050								
Barium	U	0.0050								
Cadmium	U	0.0020								
Chromium	U	0.0050								
Cobalt	U	0.0050								
Copper	U	0.0050								
Iron	U	0.20								
Lead	U	0.0050								
Molybdenum	U	0.0050								
Nickel	U	0.0050								
Selenium	U	0.0050								
Thallium	U	0.0020								
Zinc	0.00297	0.0050								J

LCS		Sample ID: <b>MLCSW3-031811-50927</b>				Units: <b>mg/L</b>		Analysis Date: <b>3/21/2011 11:31 PM</b>		
Client ID:		Run ID: <b>ICPMS03_110321A</b>				SeqNo: <b>2319821</b>		Prep Date: <b>3/18/2011</b>		DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05055	0.0050	0.05	0	101	80-120	0			
Arsenic	0.05233	0.0050	0.05	0	105	80-120	0			
Barium	0.05196	0.0050	0.05	0	104	80-120	0			
Cadmium	0.05236	0.0020	0.05	0	105	80-120	0			
Chromium	0.05089	0.0050	0.05	0	102	80-120	0			
Cobalt	0.05095	0.0050	0.05	0	102	80-120	0			
Copper	0.05063	0.0050	0.05	0	101	80-120	0			
Iron	4.967	0.20	5	0	99.3	80-120	0			
Lead	0.05028	0.0050	0.05	0	101	80-120	0			
Molybdenum	0.04883	0.0050	0.05	0	97.7	80-120	0			
Nickel	0.05203	0.0050	0.05	0	104	80-120	0			
Selenium	0.05104	0.0050	0.05	0	102	80-120	0			
Thallium	0.04978	0.0020	0.05	0	99.6	80-120	0			
Zinc	0.05386	0.0050	0.05	0	108	80-120	0			

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

Client: Malcolm Pirnie  
 Work Order: 1103272  
 Project: El Paso Smelter

# QC BATCH REPORT

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

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

Client ID: Run ID: ICPMS03\_110321A SeqNo: 2319826 Prep Date: 3/18/2011 DF: 1

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

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

Client ID: Run ID: ICPMS03\_110321A SeqNo: 2319827 Prep Date: 3/18/2011 DF: 1

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

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

Client: Malcolm Pirnie  
 Work Order: 1103272  
 Project: El Paso Smelter

# QC BATCH REPORT

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

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

Client ID: Run ID: ICPMS03\_110321A SeqNo: 2319824 Prep Date: 3/18/2011 DF: 1

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

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

Client ID: Run ID: ICPMS03\_110321A SeqNo: 2319828 Prep Date: DF: 1

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

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

Client: Malcolm Pirnie  
 Work Order: 1103272  
 Project: El Paso Smelter

# QC BATCH REPORT

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

SD	Sample ID: 1103158-08F DIL SX	Units: mg/L					Analysis Date: 3/21/2011 11:46 PM				
Client ID:	Run ID: ICPMS03_110321A	SeqNo: 2319825			Prep Date:		DF: 5				
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual	
Antimony	U	0.025	0	0	0	-0 0	0.0001582	0	10		
Arsenic	U	0.025	0	0	0	-0 0	0.0004655	0	10		
Barium	0.02894	0.025	0	0	0	-0 0	0.02928	1.18	10		
Cadmium	U	0.010	0	0	0	-0 0	-0.0001418	0	10		
Chromium	U	0.025	0	0	0	-0 0	0.000941	0	10		
Cobalt	U	0.025	0	0	0	-0 0	0.0004065	0	10		
Copper	0.0232	0.025	0	0	0	-0 0	0.02499	0	10	J	
Iron	U	1.0	0	0	0	-0 0	-0.03432	0	10		
Lead	U	0.025	0	0	0	-0 0	0.0001914	0	10		
Molybdenum	0.004809	0.025	0	0	0	-0 0	0.003973	0	10	J	
Nickel	0.023	0.025	0	0	0	-0 0	0.01963	0	10	J	
Selenium	U	0.025	0	0	0	-0 0	0.0008977	0	10		
Thallium	U	0.010	0	0	0	-0 0	0.00009279	0	10		
Zinc	U	0.025	0	0	0	-0 0	0.003462	0	10		

The following samples were analyzed in this batch:

1103272-01C

**Client:** Malcolm Pirnie  
**Work Order:** 1103272  
**Project:** El Paso Smelter

# QC BATCH REPORT

Batch ID: **50928**      Instrument ID **ICPMS03**      Method: **SW6020**

**MBLK**      Sample ID: **MBLKW4-031811-50928**      Units: **mg/L**      Analysis Date: **3/19/2011**  
 Client ID:      Run ID: **ICPMS03\_110318A**      SeqNo: **2318265**      Prep Date: **3/18/2011**      DF: **1**

Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.004728	0.010								J
Antimony	U	0.0050								
Arsenic	U	0.0050								
Barium	U	0.0050								
Cadmium	U	0.0020								
Calcium	U	0.50								
Chromium	U	0.0050								
Cobalt	U	0.0050								
Copper	U	0.0050								
Iron	U	0.20								
Lead	U	0.0050								
Magnesium	U	0.20								
Manganese	U	0.0050								
Molybdenum	U	0.0050								
Nickel	U	0.0050								
Potassium	U	0.20								
Selenium	U	0.0050								
Sodium	U	0.20								
Thallium	U	0.0020								
Zinc	U	0.0050								

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

**Client:** Malcolm Pirnie  
**Work Order:** 1103272  
**Project:** El Paso Smelter

# QC BATCH REPORT

Batch ID: **50928**      Instrument ID **ICPMS03**      Method: **SW6020**

LCS		Sample ID: <b>MLCSW4-031811-50928</b>			Units: <b>mg/L</b>		Analysis Date: <b>3/19/2011 12:06 AM</b>			
Client ID:		Run ID: <b>ICPMS03_110318A</b>			SeqNo: <b>2318266</b>		Prep Date: <b>3/18/2011</b>		DF: <b>1</b>	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09856	0.010	0.1	0	98.6	80-120	0			
Antimony	0.04687	0.0050	0.05	0	93.7	80-120	0			
Arsenic	0.0494	0.0050	0.05	0	98.8	80-120	0			
Barium	0.04693	0.0050	0.05	0	93.9	80-120	0			
Cadmium	0.04746	0.0020	0.05	0	94.9	80-120	0			
Calcium	5.027	0.50	5	0	101	80-120	0			
Chromium	0.05009	0.0050	0.05	0	100	80-120	0			
Cobalt	0.04987	0.0050	0.05	0	99.7	80-120	0			
Copper	0.0507	0.0050	0.05	0	101	80-120	0			
Iron	4.899	0.20	5	0	98	80-120	0			
Lead	0.04653	0.0050	0.05	0	93.1	80-120	0			
Magnesium	4.96	0.20	5	0	99.2	80-120	0			
Manganese	0.05004	0.0050	0.05	0	100	80-120	0			
Molybdenum	0.04548	0.0050	0.05	0	91	80-120	0			
Nickel	0.0507	0.0050	0.05	0	101	80-120	0			
Potassium	4.874	0.20	5	0	97.5	80-120	0			
Selenium	0.04902	0.0050	0.05	0	98	80-120	0			
Sodium	4.718	0.20	5	0	94.4	80-120	0			
Thallium	0.04682	0.0020	0.05	0	93.6	80-120	0			
Zinc	0.0509	0.0050	0.05	0	102	80-120	0			

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



**Client:** Malcolm Pirnie  
**Work Order:** 1103272  
**Project:** El Paso Smelter

## QC BATCH REPORT

Batch ID: **50928**      Instrument ID **ICPMS03**      Method: **SW6020**

**MS**      Sample ID: **1103158-08GMS**      Units: **mg/L**      Analysis Date: **3/19/2011 12:27 AM**

Client ID:      Run ID: **ICPMS03\_110318A**      SeqNo: **2318270**      Prep Date: **3/18/2011**      DF: **1**

Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1832	0.010	0.1	0.04114	142	80-120	0			S
Antimony	0.04879	0.0050	0.05	-0.0003818	98.3	80-120	0			
Arsenic	0.05037	0.0050	0.05	0.00005719	101	80-120	0			
Barium	0.07346	0.0050	0.05	0.02523	96.5	80-120	0			
Cadmium	0.04777	0.0020	0.05	-3.575E-05	95.6	80-120	0			
Calcium	96.16	0.50	5	92.18	79.6	80-120	0			SO
Chromium	0.04984	0.0050	0.05	0.0002349	99.2	80-120	0			
Cobalt	0.049	0.0050	0.05	0.0002464	97.5	80-120	0			
Copper	0.0729	0.0050	0.05	0.0232	99.4	80-120	0			
Iron	4.879	0.20	5	-0.02406	98.1	80-120	0			
Lead	0.04747	0.0050	0.05	0.0003493	94.2	80-120	0			
Magnesium	29.32	0.20	5	24.27	101	80-120	0			O
Manganese	0.05086	0.0050	0.05	0.002468	96.8	80-120	0			
Molybdenum	0.04963	0.0050	0.05	0.003237	92.8	80-120	0			
Nickel	0.06526	0.0050	0.05	0.01712	96.3	80-120	0			
Potassium	5.877	0.20	5	1.022	97.1	80-120	0			
Selenium	0.04746	0.0050	0.05	0.0008052	93.3	80-120	0			
Sodium	13.34	0.20	5	8.302	101	80-120	0			
Thallium	0.04805	0.0020	0.05	0.0002308	95.6	80-120	0			
Zinc	0.0548	0.0050	0.05	0.005253	99.1	80-120	0			

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

Client: Malcolm Pirnie  
 Work Order: 1103272  
 Project: El Paso Smelter

# QC BATCH REPORT

Batch ID: 50928 Instrument ID ICPMS03 Method: SW6020

MSD		Sample ID: 1103158-08GMSD				Units: mg/L		Analysis Date: 3/19/2011 12:32 AM		
Client ID:		Run ID: ICPMS03_110318A			SeqNo: 2318271		Prep Date: 3/18/2011		DF: 1	
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1426	0.010	0.1	0.04114	101	80-120	0.1832	24.9	15	R
Antimony	0.04899	0.0050	0.05	-0.0003818	98.7	80-120	0.04879	0.409	15	
Arsenic	0.0515	0.0050	0.05	0.00005719	103	80-120	0.05037	2.22	15	
Barium	0.07409	0.0050	0.05	0.02523	97.7	80-120	0.07346	0.854	15	
Cadmium	0.04736	0.0020	0.05	-3.575E-05	94.8	80-120	0.04777	0.862	15	
Calcium	96.95	0.50	5	92.18	95.4	80-120	96.16	0.818	15	O
Chromium	0.04951	0.0050	0.05	0.0002349	98.6	80-120	0.04984	0.664	15	
Cobalt	0.04941	0.0050	0.05	0.0002464	98.3	80-120	0.049	0.833	15	
Copper	0.07356	0.0050	0.05	0.0232	101	80-120	0.0729	0.901	15	
Iron	4.892	0.20	5	-0.02406	98.3	80-120	4.879	0.266	15	
Lead	0.0469	0.0050	0.05	0.0003493	93.1	80-120	0.04747	1.21	15	
Magnesium	29.52	0.20	5	24.27	105	80-120	29.32	0.68	15	O
Manganese	0.05047	0.0050	0.05	0.002468	96	80-120	0.05086	0.77	15	
Molybdenum	0.05006	0.0050	0.05	0.003237	93.6	80-120	0.04963	0.863	15	
Nickel	0.06609	0.0050	0.05	0.01712	97.9	80-120	0.06526	1.26	15	
Potassium	5.871	0.20	5	1.022	97	80-120	5.877	0.102	15	
Selenium	0.05033	0.0050	0.05	0.0008052	99	80-120	0.04746	5.87	15	
Sodium	13.32	0.20	5	8.302	100	80-120	13.34	0.15	15	
Thallium	0.0476	0.0020	0.05	0.0002308	94.7	80-120	0.04805	0.941	15	
Zinc	0.05114	0.0050	0.05	0.005253	91.8	80-120	0.0548	6.91	15	

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

Client: Malcolm Pirnie  
 Work Order: 1103272  
 Project: El Paso Smelter

# QC BATCH REPORT

Batch ID: 50928 Instrument ID ICPMS03 Method: SW6020

DUP	Sample ID: 1103158-08GDUP	Units: mg/L					Analysis Date: 3/19/2011 12:16 AM				
Client ID:	Run ID: ICPMS03_110318A	SeqNo: 2318268	Prep Date: 3/18/2011	DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.0403	0.010	0	0	0	-0 0	0.04114	2.06	25		
Antimony	U	0.0050	0	0	0	-0 0	-0.0003818	0	25		
Arsenic	U	0.0050	0	0	0	-0 0	0.00005719	0	25		
Barium	0.02622	0.0050	0	0	0	-0 0	0.02523	3.85	25		
Cadmium	U	0.0020	0	0	0	-0 0	-3.575E-05	0	25		
Calcium	94.09	0.50	0	0	0	-0 0	92.18	2.05	25		
Chromium	U	0.0050	0	0	0	-0 0	0.0002349	0	25		
Cobalt	U	0.0050	0	0	0	-0 0	0.0002464	0	25		
Copper	0.02376	0.0050	0	0	0	-0 0	0.0232	2.39	25		
Iron	U	0.20	0	0	0	-0 0	-0.02406	0	25		
Lead	U	0.0050	0	0	0	-0 0	0.0003493	0	25		
Magnesium	25.06	0.20	0	0	0	-0 0	24.27	3.2	25		
Manganese	0.002136	0.0050	0	0	0	-0 0	0.002468	0	25	J	
Molybdenum	0.00332	0.0050	0	0	0	-0 0	0.003237	0	25	J	
Nickel	0.0183	0.0050	0	0	0	-0 0	0.01712	6.66	25		
Potassium	1.044	0.20	0	0	0	-0 0	1.022	2.13	25		
Selenium	U	0.0050	0	0	0	-0 0	0.0008052	0	25		
Sodium	8.544	0.20	0	0	0	-0 0	8.302	2.87	25		
Thallium	U	0.0020	0	0	0	-0 0	0.0002308	0	25		
Zinc	U	0.0050	0	0	0	-0 0	0.005253	0	25		

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

**Client:** Malcolm Pirnie  
**Work Order:** 1103272  
**Project:** El Paso Smelter

# QC BATCH REPORT

Batch ID: **50928**      Instrument ID **ICPMS03**      Method: **SW6020**

PDS		Sample ID: <b>1103158-08GBS</b>			Units: <b>mg/L</b>		Analysis Date: <b>3/19/2011 12:37 AM</b>			
Client ID:		Run ID: <b>ICPMS03_110318A</b>			SeqNo: <b>2318272</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1321	0.010	0.1	0.04114	91	75-125	0			
Antimony	0.09753	0.0050	0.1	-0.0003818	97.9	75-125	0			
Arsenic	0.09917	0.0050	0.1	0.00005719	99.1	75-125	0			
Barium	0.1176	0.0050	0.1	0.02523	92.4	75-125	0			
Cadmium	0.09242	0.0020	0.1	-3.575E-05	92.5	75-125	0			
Calcium	96.07	0.50	10	92.18	38.9	75-125	0			SO
Chromium	0.0964	0.0050	0.1	0.0002349	96.2	75-125	0			
Cobalt	0.09619	0.0050	0.1	0.0002464	95.9	75-125	0			
Copper	0.1182	0.0050	0.1	0.0232	95	75-125	0			
Iron	9.442	0.20	10	-0.02406	94.7	75-125	0			
Lead	0.09283	0.0050	0.1	0.0003493	92.5	75-125	0			
Magnesium	32.62	0.20	10	24.27	83.5	75-125	0			
Manganese	0.0971	0.0050	0.1	0.002468	94.6	75-125	0			
Molybdenum	0.0962	0.0050	0.1	0.003237	93	75-125	0			
Nickel	0.1129	0.0050	0.1	0.01712	95.8	75-125	0			
Potassium	10.42	0.20	10	1.022	94	75-125	0			
Selenium	0.09061	0.0050	0.1	0.0008052	89.8	75-125	0			
Sodium	17.69	0.20	10	8.302	93.9	75-125	0			
Thallium	0.09537	0.0020	0.1	0.0002308	95.1	75-125	0			
Zinc	0.1051	0.0050	0.1	0.005253	99.8	75-125	0			

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

Client: Malcolm Pirnie  
 Work Order: 1103272  
 Project: El Paso Smelter

# QC BATCH REPORT

Batch ID: 50928 Instrument ID ICPMS03 Method: SW6020

SD	Sample ID: 1103158-08G DIL SX			Units: mg/L			Analysis Date: 3/19/2011 12:21 AM			
Client ID:	Run ID: ICPMS03_110318A			SeqNo: 2318269		Prep Date:		DF: 5		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Aluminum	0.0567	0.050	0	0	0	-0 0	0.04114	0	10	
Antimony	U	0.025	0	0	0	-0 0	-0.0003818	0	10	
Arsenic	U	0.025	0	0	0	-0 0	0.00005719	0	10	
Barium	0.0264	0.025	0	0	0	-0 0	0.02523	4.66	10	
Cadmium	U	0.010	0	0	0	-0 0	-3.575E-05	0	10	
Calcium	91.45	2.5	0	0	0	-0 0	92.18	0.792	10	
Chromium	U	0.025	0	0	0	-0 0	0.0002349	0	10	
Cobalt	U	0.025	0	0	0	-0 0	0.0002464	0	10	
Copper	0.02033	0.025	0	0	0	-0 0	0.0232	0	10	J
Iron	U	1.0	0	0	0	-0 0	-0.02406	0	10	
Lead	U	0.025	0	0	0	-0 0	0.0003493	0	10	
Magnesium	24.43	1.0	0	0	0	-0 0	24.27	0.659	10	
Manganese	U	0.025	0	0	0	-0 0	0.002468	0	10	
Molybdenum	U	0.025	0	0	0	-0 0	0.003237	0	10	
Nickel	0.01571	0.025	0	0	0	-0 0	0.01712	0	10	J
Potassium	1.054	1.0	0	0	0	-0 0	1.022	3.18	10	
Selenium	U	0.025	0	0	0	-0 0	0.0008052	0	10	
Sodium	7.1	1.0	0	0	0	-0 0	8.302	14.5	10	R
Thallium	U	0.010	0	0	0	-0 0	0.0002308	0	10	
Zinc	U	0.025	0	0	0	-0 0	0.005253	0	10	

The following samples were analyzed in this batch: | 1103272-01B |

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

Client: Malcolm Pirnie  
 Work Order: 1103272  
 Project: El Paso Smelter

# QC BATCH REPORT

Batch ID: **51003** Instrument ID **Mercury** Method: **SW7470** (Dissolve)

MBLK		Sample ID: <b>GBLKW3-032311-51003</b>				Units: <b>mg/L</b>		Analysis Date: <b>3/23/2011 03:20 PM</b>		
Client ID:		Run ID: <b>MERCURY_110323A</b>				SeqNo: <b>2322349</b>		Prep Date: <b>3/23/2011</b>		DF: <b>1</b>
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: <b>GLCSW3-032311-51003</b>				Units: <b>mg/L</b>		Analysis Date: <b>3/23/2011 03:22 PM</b>		
Client ID:		Run ID: <b>MERCURY_110323A</b>				SeqNo: <b>2322350</b>		Prep Date: <b>3/23/2011</b>		DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00535	0.00020	0.005	0	107	80-120	0			

MS		Sample ID: <b>1103272-01CMS</b>				Units: <b>mg/L</b>		Analysis Date: <b>3/23/2011 03:28 PM</b>		
Client ID: <b>QA030811</b>		Run ID: <b>MERCURY_110323A</b>				SeqNo: <b>2322353</b>		Prep Date: <b>3/23/2011</b>		DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00834	0.00020	0.005	0.00314	104	80-120	0			

MSD		Sample ID: <b>1103272-01CMSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>3/23/2011 03:30 PM</b>		
Client ID: <b>QA030811</b>		Run ID: <b>MERCURY_110323A</b>				SeqNo: <b>2322354</b>		Prep Date: <b>3/23/2011</b>		DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00825	0.00020	0.005	0.00314	102	80-120	0.00834	1.08	20	

DUP		Sample ID: <b>1103272-01CDUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>3/23/2011 03:26 PM</b>		
Client ID: <b>QA030811</b>		Run ID: <b>MERCURY_110323A</b>				SeqNo: <b>2322352</b>		Prep Date: <b>3/23/2011</b>		DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00311	0.00020	0	0	0	-0 0	0.00314	0.96	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: 1103272  
 Project: El Paso Smelter

# QC BATCH REPORT

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

MBLK		Sample ID: <b>WBLKW1-031011-R106646</b>			Units: <b>mg/L</b>			Analysis Date: <b>3/10/2011 11:42 AM</b>		
Client ID:		Run ID: <b>ICS3000_110310A</b>			SeqNo: <b>2308361</b>		Prep Date:		DF: <b>1</b>	
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	0.10								
<i>Surr: Selenate (surr)</i>	<i>5.187</i>	<i>0.10</i>	<i>5</i>	<i>0</i>	<i>104</i>	<i>85-115</i>	<i>0</i>			

LCS		Sample ID: <b>WLCSW1-031011-R106646</b>			Units: <b>mg/L</b>			Analysis Date: <b>3/10/2011 12:03 PM</b>		
Client ID:		Run ID: <b>ICS3000_110310A</b>			SeqNo: <b>2308362</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.67	0.50	20	0	108	90-110	0			
Fluoride	3.851	0.10	4	0	96.3	90-110	0			
Nitrogen, Nitrate (As N)	3.966	0.10	4	0	99.2	90-110	0			
Nitrogen, Nitrite (As N)	4.018	0.10	4	0	100	90-110	0			
Sulfate	19.89	0.50	20	0	99.5	90-110	0			
Nitrate/Nitrite (as N)	7.984	0.10	8	0	99.8	90-110	0			
<i>Surr: Selenate (surr)</i>	<i>5.25</i>	<i>0.10</i>	<i>5</i>	<i>0</i>	<i>105</i>	<i>85-115</i>	<i>0</i>			

LCSD		Sample ID: <b>WLCSDW1-031011-R106646</b>			Units: <b>mg/L</b>			Analysis Date: <b>3/10/2011 12:24 PM</b>		
Client ID:		Run ID: <b>ICS3000_110310A</b>			SeqNo: <b>2308364</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.68	0.50	20	0	98.4	90-110	21.67	9.65	20	
Fluoride	3.877	0.10	4	0	96.9	90-110	3.851	0.673	20	
Nitrogen, Nitrate (As N)	3.842	0.10	4	0	96	90-110	3.966	3.18	20	
Nitrogen, Nitrite (As N)	3.913	0.10	4	0	97.8	90-110	4.018	2.65	20	
Sulfate	19.22	0.50	20	0	96.1	90-110	19.89	3.44	20	
Nitrate/Nitrite (as N)	7.755	0.10	8	0	96.9	90-110	7.984	2.91	20	
<i>Surr: Selenate (surr)</i>	<i>5.201</i>	<i>0.10</i>	<i>5</i>	<i>0</i>	<i>104</i>	<i>85-115</i>	<i>5.25</i>	<i>0.938</i>	<i>20</i>	

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

Client: Malcolm Pirnie  
 Work Order: 1103272  
 Project: El Paso Smelter

# QC BATCH REPORT

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

MSD		Sample ID: <b>1103176-12AMS</b>			Units: <b>mg/L</b>			Analysis Date: <b>3/10/2011 04:16 PM</b>		
Client ID:		Run ID: <b>ICS3000_110310A</b>			SeqNo: <b>2308379</b>		Prep Date:		DF: <b>10</b>	
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1807	5.0	100	1734	73	80-120	0			SEO
Fluoride	39.38	1.0	20	20.05	96.7	80-120	0			
Nitrogen, Nitrite (As N)	19.26	1.0	20	0	96.3	80-120	0			
Sulfate	15980	5.0	100	0	16000	80-120	0			SE
Nitrate/Nitrite (as N)	19.26	1.0	40	0	48.2	80-120	0			S
<i>Surr: Selenate (surr)</i>	<i>50.5</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>85-115</i>	<i>0</i>			

MSD		Sample ID: <b>1103176-12AMSD</b>			Units: <b>mg/L</b>			Analysis Date: <b>3/10/2011 04:37 PM</b>		
Client ID:		Run ID: <b>ICS3000_110310A</b>			SeqNo: <b>2308380</b>		Prep Date:		DF: <b>10</b>	
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1804	5.0	100	1734	70.8	80-120	0			SEO
Fluoride	39.36	1.0	20	20.05	96.6	80-120	0			
Nitrogen, Nitrite (As N)	19.25	1.0	20	0	96.2	80-120	0			
Sulfate	15960	5.0	100	0	16000	80-120	0			SE
Nitrate/Nitrite (as N)	19.25	1.0	40	0	48.1	80-120	0			S
<i>Surr: Selenate (surr)</i>	<i>50.52</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>85-115</i>	<i>0</i>			

MSD		Sample ID: <b>1103162-01CMS</b>			Units: <b>mg/L</b>			Analysis Date: <b>3/10/2011 09:53 PM</b>		
Client ID:		Run ID: <b>ICS3000_110310A</b>			SeqNo: <b>2308395</b>		Prep Date:		DF: <b>10</b>	
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	692.5	5.0	100	606.2	86.3	80-120	0			O
Fluoride	21.85	1.0	20	1.071	104	80-120	0			
Nitrogen, Nitrate (As N)	24.71	1.0	20	4.443	101	80-120	0			H
Nitrogen, Nitrite (As N)	21.76	1.0	20	0	109	80-120	0			H
Sulfate	430.9	5.0	100	333.5	97.4	80-120	0			
Nitrate/Nitrite (as N)	46.48	1.0	40	4.443	105	80-120	0			H
<i>Surr: Selenate (surr)</i>	<i>52.42</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>105</i>	<i>85-115</i>	<i>0</i>			

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



**Client:** Malcolm Pirnie  
**Work Order:** 1103272  
**Project:** El Paso Smelter

## QC BATCH REPORT

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

MSD	Sample ID: <b>1103162-01CMSD</b>			Units: <b>mg/L</b>		Analysis Date: <b>3/10/2011 10:15 PM</b>				
Client ID:	Run ID: <b>ICS3000_110310A</b>			SeqNo: <b>2308396</b>		Prep Date:		DF: <b>10</b>		
Analyte	Result	ML	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	694.1	5.0	100	606.2	87.9	80-120	0			O
Fluoride	22.14	1.0	20	1.071	105	80-120	0			
Nitrogen, Nitrate (As N)	24.75	1.0	20	4.443	102	80-120	0			H
Nitrogen, Nitrite (As N)	21.76	1.0	20	0	109	80-120	0			H
Sulfate	429.6	5.0	100	333.5	96.1	80-120	0			
Nitrate/Nitrite (as N)	46.51	1.0	40	4.443	105	80-120	0			H
<i>Surr: Selenate (surr)</i>	52.38	1.0	50	0	105	85-115	0			

The following samples were analyzed in this batch:

1103272-01E

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

Client: Malcolm Pirnie  
 Work Order: 1103272  
 Project: El Paso Smelter

# QC BATCH REPORT

Batch ID: R106735 Instrument ID TOC\_W Method: SM5310C

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

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

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

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

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

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

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

The following samples were analyzed in this batch:

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

**Client:** Malcolm Pirnie  
**Work Order:** 1103272  
**Project:** El Paso Smelter

# QC BATCH REPORT

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

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

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

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

**The following samples were analyzed in this batch:**     

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

**Client:** Malcolm Pirnie  
**Work Order:** 1103272  
**Project:** El Paso Smelter

# QC BATCH REPORT

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

**MBLK**      Sample ID: **BLANK-R106857**      Units: **mg/L**      Analysis Date: **3/14/2011 11:00 AM**

Client ID:      Run ID: **BALANCE1\_110314C**      SeqNo: **2312938**      Prep Date:      DF: **1**

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

**LCS**      Sample ID: **LCS-R106857**      Units: **mg/L**      Analysis Date: **3/14/2011 11:00 AM**

Client ID:      Run ID: **BALANCE1\_110314C**      SeqNo: **2312939**      Prep Date:      DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	1010	10	1000	0	101	85-115	0			

**DUP**      Sample ID: **1103301-02ADUP**      Units: **mg/L**      Analysis Date: **3/14/2011 11:00 AM**

Client ID:      Run ID: **BALANCE1\_110314C**      SeqNo: **2312900**      Prep Date:      DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	304	10	0	0	0	0-0	354	15.2	20	

**DUP**      Sample ID: **1103419-01CZDUP**      Units: **mg/L**      Analysis Date: **3/14/2011 11:00 AM**

Client ID:      Run ID: **BALANCE1\_110314C**      SeqNo: **2312915**      Prep Date:      DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	222	10	0	0	0	0-0	212	4.61	20	

The following samples were analyzed in this batch:

1103272-01E
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Malcolm Pirnie  
 Work Order: 1103272  
 Project: El Paso Smelter

# QC BATCH REPORT

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

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

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

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

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

The following samples were analyzed in this batch: 1103272-01D

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

**Client:** Malcolm Pirnie  
**Work Order:** 1103272  
**Project:** El Paso Smelter

# QC BATCH REPORT

Batch ID: **R107113**      Instrument ID **WetChem**      Method: **SM2320B**

**MBLK**      Sample ID: **WBLKW1-032111-R107113**      Units: **mg/L**      Analysis Date: **3/21/2011 01:45 PM**

Client ID:      Run ID: **WETCHEM\_110321H**      SeqNo: **2319082**      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: **WLCSW1-032111-R107113**      Units: **mg/L**      Analysis Date: **3/21/2011 01:45 PM**

Client ID:      Run ID: **WETCHEM\_110321H**      SeqNo: **2319083**      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)	1018	5.0	1000	0	102	80-120	0			

**DUP**      Sample ID: **1103515-01BDUP**      Units: **mg/L**      Analysis Date: **3/21/2011 01:45 PM**

Client ID:      Run ID: **WETCHEM\_110321H**      SeqNo: **2319093**      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)	211.6	5.0	0	0	0	0-0	209.6	0.95	20	

**The following samples were analyzed in this batch:**

---

---

**Client:** Malcolm Pirnie  
**Project:** El Paso Smelter  
**WorkOrder:** 1103272

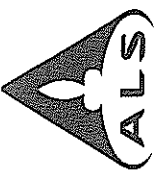
**QUALIFIERS,  
ACRONYMS, UNITS**

---

<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 Stancil Rd., Suite 210  
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 Fax. +1 281 530 5887

**Chain of Custody Form**

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

Page 1 of 1

Customer Information				Project Information				ALS Work Order # <u>1103217</u>											
ALS Project Manager:				Parameter/Method Request for Analysis															
Purchase Order	Project Name			ALS Project Manager:				Parameter/Method Request for Analysis											
Work Order	Project Number			E1 Paso Smelter				Total Metals (600/700) Al, Ca, Mg, Mn, Na, Ni, S, Pb, Fe, Cu											
Company Name	Bill To Company			6835001				Hg, Zn, Ti, Cd, Cr, Co, Cu, Fe, Pb, Mo, Ni, Se											
Send Report To	Invoice Attn							Dissolved Metals (600/700) Sb, As, Ba, Cd, Cr, Co, Cu											
Address	Address							Fe, Pb, Mn, Ni, Se, Ti, Zn, Hg											
City/State/Zip	City/State/Zip			E1 Paso, TX 79901				Anions (300) Cl, F, SO <sub>4</sub> , NO <sub>3</sub> , NO <sub>2</sub>											
Phone	Phone			915-533-9025				TDS											
Fax	Fax			915-533-9045				TSS											
e-Mail Address	e-Mail Address							TOL (5310c)											
								Temperature											
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	<del>QA50</del> QA030811	3-8-11	1315	L	234, 19	5	X	X	X	X	X	X	X	X					
2	Temp Blank	3-8-11	1800	L	28	1									X				
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
Sampler(s) Please Print & Sign				Shipment Method				Required Turnaround Time: (Check Box)				Results Due Date:							
Carroll Kerasus <i>[Signature]</i>				Fed Ex				X STD, 10 Wk Days				24 Hour							
Relinquished by: <i>[Signature]</i>				Received by:				5 Wk Days				2 Wk Days							
Date: 3-8-11				Time: 1800				Other				Cooler Temp							
Date: 3-9-11				Time: 0945				Cooler ID				Cooler Temp							
Date: 3-9-11				Time: 0945				Cooler ID				Cooler Temp							
Date: 3-9-11				Time: 0945				Cooler ID				Cooler Temp							
Preservative Key: 1-HCl 2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub> 4-NaOH 5-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 6-NaHSO <sub>3</sub> 7-Other 8-4°C 9-5035				Notes: / Cooler				QC Package: (Check One Box Below)				Level II Std QC							
				Received by (Laboratory): KN ALS				Level III Std QC/Raw Date				Level IV SW846/CLP							
				Checked by (Laboratory):				Other				TRRP Checklist							
												TRRP Level IV							

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: 09-Mar-11 09:45

Work Order: 1103272

Received by: RDN

Checklist completed by Salvador A. Yanez 09-Mar-11
eSignature Date

Reviewed by: Jay Lynn F Thibault 10-Mar-11
eSignature Date

Matrices: Water

Carrier name: FedEx

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

Temperature(s)/Thermometer(s): 1.2c 002

Cooler(s)/Kit(s):

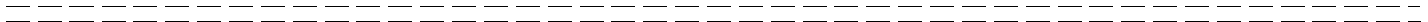
Water - VOA vials have zero headspace? Yes [ ] No [ ] No VOA vials submitted [checked]

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

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

pH adjusted by:

Login Notes:




Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

1103272

 <b>ALS Environmental</b> 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 930 5856. Fax. +1 281 530 5887		<b>TONY SEAL</b> Time: <u>1100</u>	Seal Broken By: <u>RN</u>
			Date: <u>3/9/11</u>

This portion can be removed for Recipient's records.  
 FedEx Tracking Number: 873521293149  
 Date: 3-8-11

Order's name: JODY BILLINGSLEA Phone: 915 533-9025

Company: MALCOM FIRMIE INC.

Address: 211 N FLORENCE ST STE 202 Dept./Floor/Suite/Room

City: EL PASO State: TX ZIP: 79901-1424

Our Internal Billing Reference: 6835001