1260716

REGION VIII
DATA VALIDATION REPORT
INORGANIC

Case/TDD No.	Site Name		Operable Unit
40755 / 1008-16	Upper Animas Mining District		
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
ALS Laboratory Group	EPW05026	MH35E5	

Review Assigned Date: December 15, 2010
Review Completion Date: February 18, 2011
Data Validator: Fred Luck
Report Reviewer: Lesley Boyd

Sample ID	Matrix	Analysis
MH35E5	Sediment	CLP –Metals
MH35E6		
MH35E7		
MH35E8		
MH35E9		
MH35F0		
MH35F1		
MH35F2		
MH35F3		
MH35F4		
MH35F5		
MH35F6		
MH35F7		

Sample ID	Matrix	Analysis
MH35F8	Sediment	CLP –Metals
MH35F9		
MH35G0		
MH35G1		
MH35G2		
MH35G3		
MH35G4		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes _____ No ___X_____

CLP Project Officer Attention Required? Yes _____ No ___X_____ If yes, list the items that require attention:

INORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," January 2010.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-15% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, Case No. 40755, SDG No. MH35E5, consisted of twenty sediment samples for metals by ICP-AES and ICP-MS (ISM01.2). The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
All Samples	Antimony	U	Blank Contamination	3
MH35E5, MH35E6, MH35F0, MH35F1, MH35F2, MH35F3, MH35F4, MH35F5, MH35F6, MH35F7, MH35F9, MH35G1, MH35G2, MH35G3, MH35G4	Beryllium			
MH35E5, MH35E6, MH35F0, MH35F3, MH35F4, MH35F6, MH35F7, MH35G0, MH35G1, MH35G2	Cadmium			
MH35F3, MH35F5, MH35G1	Calcium			
MH35F8	Chromium			
MH35F8	Magnesium			
MH35E9, MH35F0, MH35F8, MH35G1, MH35G3	Potassium			
MH35E9, MH35F8	Silver			
All Samples	Sodium			
MH35E5, MH35E6, MH35E7, MH35E8, MH35E9, MH35F0, MH35F1, MH35F2, MH35F3, MH35F4, MH35F5, MH35F6, MH35F8, MH35F9, MH35G1, MH35G3	Thallium			

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH35E7, MH35E8, MH35E9, MH35F8, MH35G0	Beryllium	J+	Potentially false positive detection in ICS check sample	4
MH35E5, MH35E6 MH35E7, MH35E8, MH35F1, MH35F2, MH35F3, MH35F4, MH35F5, MH35F6, MH35F7, MH35F9, MH35G0, MH35G2, MH35G4	Potassium			
MH35E5, MH35E6, MH35E7, MH35E8, MH35F0, MH35F1, MH35F2, MH35F3, MH35F4, MH35F5, MH35F6, MH35F7, MH35F9, MH35G0, MH35G1, MH35G2, MH35G3, MH35G4	Silver			
MH35F7, MH35G0, MH35G2, MH35G4	Thallium			
All Samples	Barium, Zinc	J/UJ	Original &Duplicate both >5x the CRQL and RPD > 20%	6
	Cadmium		Original and/or Duplicate < 5x the CRQL and absolute difference > CRQL	
			MS 30 - 74%R, Post Digestion Spike %R ≥ 75%	7
	Antimony, Selenium, Silver		MS <30%R, Post Digestion Spike %R ≥ 75%	
	Copper	J	MS > 125%R, Post Digestion Spike %R ≤ 125%	
	Arsenic, Beryllium, Cadmium, Cobalt, Copper, Nickel, Potassium, Sodium, Zinc		Serial Dilution %D > 10%	8

1. PRESERVATION AND HOLDING TIMES

All technical holding times and preservation criteria were met.

Yes___ No_X_

Comments: The samples were analyzed within 180 days for the ICP metals. According to the Sample Log-In Sheet and case narrative, the two sample coolers were each received at a temperature of 7°C, which is outside the recommended temperature range of 4 ± 2°C. The Sample Log-In Sheet further indicates that neither cooler contained a Cooler Temperature Indicator Bottle, as indicated on the form to be required. There is also no indication that SMO was contacted regarding this issue, neither is any documentation of the resolution or indication of how the cooler temperature was derived provided. The TR/COC also did not designate a sample for laboratory QC, but the documentation of the resolution of this issue is provided in the SDG.

When the sample preservation criteria are not met, but the sample analysis and extraction are within the technical holding times then professional judgment is used whether to qualify the data. No action was taken since the preservation exceedence was minimal and the extraction and holding times were well within the established parameters.

The sampler did not designate a specific sample on the TR/COC for Laboratory QC; in accordance with reported previous Region 8 direction, the laboratory did select a sample (MH35G4) for laboratory QC. The reviewer has not been provided any information regarding PE, field blank, or rinsate samples; therefore cannot evaluate whether the selected sample was a PE, field blank, or rinsate sample.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

2. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICV AND CCV)

The initial and continuing calibration verification standards (ICV and CCV, respectively) met SOW requirements.

Yes_X_ No____

Comments: None.

The calibration verification results were within 90-110% recovery for metals, 85-115% for cyanide, and 80-120% for mercury.

Yes_X_ No____

Comments: None.

The continuing calibration standards were run at 10% frequency or every two hours.

Yes_X_ No____

Comments: None.

3. **BLANKS**

The initial and continuing calibration blanks (ICB and CCB, respectively) met SOW requirements.

Yes_X_ No____

Comments: For the ICP-AES analyses, the ICB was rerun.

The continuing calibration blanks were run at 10% frequency.

Yes_X_ No____

Comments: Continuing calibration blanks were run every 10 samples.

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.

Yes_X_ No____

Comments: None.

All analyzed blanks were free of contamination.

Yes___ No_X_

Comments: The following table lists the blanks with contamination that resulted in sample qualification, elements present, affected samples, and data qualifiers:

Blank Contaminants

Blank ID	Contam-inant	CRQL (mg/Kg)	MDL (mg/Kg)	Concentration Found in Blank (mg/Kg)	Associated Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
PB	Antimony	1	0.0097	0.013	MH35E5	1.3	2.1 U
					MH35E6	0.68	1.4 U
					MH35E7	0.22	1.3 U
					MH35E8	0.98	1.6 U
					MH35E9	0.79	1.3 U
					MH35F0	0.44	1.7 U
					MH35F1	1.1	1.6 U
					MH35F2	0.56	1.4 U
					MH35F3	0.87	1.6 U
					MH35F4	0.88	1.4 U
					MH35F5	1.2	1.3 U
					MH35F6	0.38	1.5 U
					MH35F7	0.58	1.9 U
					MH35F8	0.94	2.5 U
					MH35F9	0.41	1.3 U
					MH35G0	0.42	1.4 U
					MH35G1	1.4	3.8 U
					MH35G2	0.44	1.6 U
					MH35G3	0.59	1.3 U
					MH35G4	0.33	1.6 U
PB	Beryllium	0.5	0.0032	0.011	MH35E5	0.44	1.0 U
					MH35E6	0.33	0.72 U
					MH35F0	0.66	0.87 U
					MH35F1	0.39	0.78 U
					MH35F2	0.38	0.68 U
					MH35F3	0.41	0.82 U
					MH35F4	0.38	0.71 U
					MH35F5	0.41	0.64 U
					MH35F6	0.41	0.74 U
					MH35F7	0.57	0.93 U
					MH35F9	0.46	0.66 U
					MH35G1	0.29	1.9 U
					MH35G2	0.47	0.78 U
					MH35G3	0.46	0.64 U
					MH35G4	0.56	0.81 U
PB	Cadmium	0.5	0.0027	0.500	MH35E5	0.74	1.0 U
					MH35E6	0.66	0.72 U
					MH35F0	0.78	0.87 U
					MH35F3	0.52	0.82 U
					MH35F4	0.47	0.71 U
					MH35F6	0.51	0.74 U
					MH35F7	0.79	0.93 U
					MH35G0	0.35	0.68 U
					MH35G1	0.45	1.9 U
					MH35G2	0.44	0.78 U
PB	Calcium	500	1.7	4.404	MH35F3	791	822 U
					MH35F5	230	644 U
					MH35G1	1150	1900 U
PB	Chromium	1	0.026	1.000	MH35F8	1.6	2.5 U
PB	Magnesium	500	1.2	500	MH35F8	447	1240 U

Blank ID	Contam-inant	CRQL (mg/Kg)	MDL (mg/Kg)	Concentration Found in Blank (mg/Kg)	Associated Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
PB	Potassium	500	5.8	55.883	MH35E9	375	674 U
					MH35F0	842	865 U
					MH35F8	209	1240 U
					MH35G1	1160	1900 U
					MH35G3	510	636 U
PB	Silver	0.5	0.0023	0.010	MH35E9	0.48	0.67 U
					MH35F8	0.22	1.2 U
PB	Sodium	500	0.73	18.271	MH35E5	117	1040 U
					MH35E6	60.2	723 U
					MH35E7	49.7	641 U
					MH35E8	92.9	814 U
					MH35E9	180	674 U
					MH35F0	58.1	865 U
					MH35F1	88.1	781 U
					MH35F2	75.6	676U
					MH35F3	76.1	822 U
					MH35F4	68.7	714 U
					MH35F5	69.8	644 U
					MH35F6	90.6	741 U
					MH35F7	109	926 U
					MH35F8	32.3	1240 U
					MH35F9	62.4	657 U
					MH35G0	56.6	684 U
					MH35G1	77.5	1900 U
					MH35G2	100	782 U
					MH35G3	25.2	636 U
					MH35G4	94.7	813 U
PB	Thallium	0.5	0.0015	0.007	MH35E5	0.72	1.0 U
					MH35E6	0.41	0.72 U
					MH35E7	0.32	0.64 U
					MH35E8	0.45	0.81 U
					MH35E9	0.19	0.67 U
					MH35F0	0.31	0.87 U
					MH35F1	0.62	0.78 U
					MH35F2	0.41	0.68 U
					MH35F3	0.75	0.82 U
					MH35F4	0.69	0.71 U
					MH35F5	0.59	0.64 U
					MH35F6	0.44	0.74 U
					MH35F8	0.26	1.2 U
					MH35F9	0.36	0.66 U
					MH35G1	0.43	1.9 U
					MH35G3	0.42	0.64 U

4. INDUCTIVELY COUPLED PLASMA - INTERFERENCE CHECK SAMPLE (ICP-ICS)

The ICP interference check sample (ICS) was run at the beginning and end of each sample analysis run and every 20 analytical samples, but not prior to the ICV.

Yes_X_ No____

Comments: None.

Percent recovery of the analytes in the ICS solutions were within the range of 80-120% or the result was within ± the CRQL.

Yes_X_ No____

Comments: None.

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values or no interference was noted.

Yes_X_ No___ NA____

Comments: None.

Sample results contain potential false positives and false negatives.

Yes_X_ No____

Comments: The following table lists the elements with potential false positives or false negatives that resulted in sample qualification, affected samples, and data qualifiers:

ICP Interferences

Element	Concentration Found in ICSA Sample (ug/L)	Affected Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
Beryllium	0.37	MH35E7 MH35E8 MH35E9 MH35F8 MH35G0	>MDL	J+
Potassium	1020	MH35E5 MH35E6 MH35E7 MH35E8 MH35F1 MH35F2 MH35F3 MH35F4 MH35F5 MH35F6 MH35F7 MH35F9 MH35G0 MH35G2 MH35G4		
Silver	0.015	MH35E5 MH35E6 MH35E7 MH35E8 MH35F0 MH35F1 MH35F2 MH35F3 MH35F4 MH35F5 MH35F6 MH35F7 MH35F9 MH35G0 MH35G1 MH35G2 MH35G3 MH35G4		
Thallium	0.056	MH35F7 MH35G0 MH35G2 MH35G4		

5. LABORATORY CONTROL SAMPLE

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No____

Comments: None.

All results were within control limits OF 70-130%.

Yes_X_ No____

Comments: None.

6. FORM 6 & 12 - DUPLICATE SAMPLE ANALYSIS

Duplicate sample analysis was performed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No___ NA____

Comments: None.

The RPDs were calculated correctly.

Yes_X_ No___ NA____

Comments: None.

For sample concentrations greater than five times the CRQL, RPDs were within ±20% (limits of ±35% apply for soil/sediments/tailings samples).

Yes___ No_X_ NA____

Comments: The following table lists the duplicate results outside control limits, samples affected, and data qualifiers:

Element	RPD	QC Limit	Samples Affected	Qualifiers
Barium	57%	20%	All samples	J / UJ
Zinc	75%			

For sample concentrations less than five times the CRQL, duplicate analysis results were within the control window of CRQL (absolute difference < CRQL for soils).

Yes___ No_X_ NA___

Comments: The following table lists the duplicate results outside control limits, samples affected, and data qualifiers:

Element	Sample / Duplicate Result (mg / Kg)	% RPD	5x CRQL (mg / Kg)	Samples Affected	Qualifiers
Cadmium	2.73 / 1.13	83 %	2.5	All samples	J / UJ

7. SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No___ NA___

Comments: None.

The percent recoveries (%Rs) were calculated correctly.

Yes_X_ No___ NA___

Comments: None.

Spike recoveries were within the range of 75-125% (an exception is granted where the sample concentration is four times the spike concentration).

Yes___ No_X_

Comments: The following table lists the spike recoveries outside control limits, post digestion spike recoveries, samples affected, and data qualifiers:

Element	Matrix Spike %R	Post-Digestion %R	Samples Affected	Qualifiers
Antimony	13%	168%	All samples	J/UJ
Cadmium	61%	83%		
Copper	182%	77%		J
Selenium	6%	114%		J/UJ
Silver	1%	87%		

A post-digest spike was performed for those elements that did not meet the specified criteria (i.e., Pre-digestion/pre-distillation spike recovery falls outside of control limits and sample result is less than four times the spike amount added, exception: Ag, Hg).

Yes_X_ No__ NA____

Comments: None.

8. ICP SERIAL DILUTION

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.

Yes_X_ No____

Comments: None.

The serial dilution was without interference problems as defined by the SOW.

Yes___ No_X__

Comments: The following serial dilution %Ds were greater than 10% and the original sample result was at least 50* the MDL:

Element	% Difference	Samples Affected	Qualifiers
Arsenic	30%	All samples	J
Beryllium	14%		
Cadmium	11%		
Cobalt	13%		
Copper	18%		
Nickel	15%		
Potassium	19%		
Sodium	30%		
Zinc	30%		

9. REGIONAL QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC)

Regional QA/QC was conducted as initiated by the EPA Region 8.

Yes__ No__ NA _X

Comments: The SDG shows no indication of EPA Region 8 initiating any additional QA / QC.

10. FORM 10 - INTERELEMENT CORRECTION FACTORS FOR ICP

Interelement corrections for ICP were reported.

Yes_X_ No____

Comments: None.

11. FORM 12 - PREPARATION LOG

Information on the preparation of samples for analysis was reported on Form 12.

Yes_X_ No____

Comments: None.

12. FORM 13 - ANALYSIS RUN LOG

A Form 13 with the required information was filled out for each analysis run in the data package.

Yes_X_ No____

Comments: None.

13. Additional Comments or Problems/Resolutions Not Addressed Above

Page 1 of the Evidence Audit Checklist (EAC) indicates three airbills are associated with this SDG, however documentation is only provided for Airbill Number 3430, which documents the shipment of four packages. The laboratory only documented receipt of two coolers, so it is unclear as to what the other two packages were that were included on the airbill.

INORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
J+	-	The associated numerical value is an estimated quantity but the result may be biased high.
J-	-	The associated numerical value is an estimated quantity but the result may be biased low.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

ACRONYMS

AA	Atomic Absorption
Ag	Silver
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
CRA	CRQL standard required for AA
CRQL	Contract Required Quantitation Limit
CRI	CRQL standard required for ICP
CV	Cold Vapor
EPA	U.S. Environmental Protection Agency
GFAA	Graphite Furnace Atomic Absorption
Hg	Mercury
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICS	Interference Check Sample
ICSA	Interference Check Sample (Solution A)
ICSAB	Interference Check Sample (Solution AB)
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
LRA	Linear Range Verification Analysis
MDL	Method Detection Limit
PDS	Post Digestion Spike
QC	Quality Control
RPD	Relative Percent Difference
RPM	Regional Project Manager
RSD	Percent Relative Standard Deviation
SA	Spike Added
SAS	Special Analytical Services
SDG	Sample Delivery Group
SOW	Statement of Work
SR	Sample Result
SSR	Spiked Sample Result

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35E5

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768001

% Solids: 48.3 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6860			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1100			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	78100			P
7439-92-1	Lead				
7439-95-4	Magnesium	3030			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1700		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	117.	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ [illegible]

1040 [illegible] 2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35E5

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768001

% Solids: 48.3 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	1.3	J	N	MS	2.1 UJ
7440-38-2	Arsenic	45.3		E	MS	J
7440-39-3	Barium	559.		*	MS	J
7440-41-7	Beryllium	0.44	J	E	MS	1.0 UJ
7440-43-9	Cadmium	0.74	J	*NE	MS	1.0 UJ
7440-70-2	Calcium					
7440-47-3	Chromium	6.6		*	MS	~~J~~ KA 3/9/11
7440-48-4	Cobalt	3.9		E	MS	J
7440-50-8	Copper	48.7		NE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	459.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	333.		*	MS	~~J~~ KA 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	3.4		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	1.6	J	N	MS	~~5.2 UJ~~ J
7440-22-4	Silver	4.5		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.72	J		MS	1.0 U
7440-62-2	Vanadium	49.7		*	MS	~~J~~ KA 3/9/11
7440-66-6	Zinc	205.		*E	MS	J
57-12-5	Cyanide					

2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: WHITE Clarity After: CLOUDY Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35E6

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768002

% Solids: 69.2 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7030			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1010			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	68800			P
7439-92-1	Lead				
7439-95-4	Magnesium	4080			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	889.		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	60.2	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ M

723 UM
2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35E6

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768002

% Solids: 69.2 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.68	J	N	MS	1.4 UJ
7440-38-2	Arsenic	34.1		E	MS	J
7440-39-3	Barium	210.		*	MS	J
7440-41-7	Beryllium	0.33	J	E	MS	0.72 U
7440-43-9	Cadmium	0.66	J	*NE	MS	0.72 U
7440-70-2	Calcium					
7440-47-3	Chromium	6.4		*	MS	J KEA 3/2/11
7440-48-4	Cobalt	4.3		E	MS	J
7440-50-8	Copper	53.0		NE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	322.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	506.		*	MS	J KEA 3/2/11
7439-97-6	Mercury					
7440-02-0	Nickel	4.0		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	0.81	J	N	MS	~~3.6 U~~ J
7440-22-4	Silver	2.5		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.41	J		MS	0.72 U
7440-62-2	Vanadium	44.8		*	MS	J KEA 3/2/11
7440-66-6	Zinc	199.		*E	MS	J 2/18/11
57-12-5	Cyanide					

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35E7

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768003

% Solids: 78.0 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8570			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	2560			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	20800			P
7439-92-1	Lead				
7439-95-4	Magnesium	5610			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	745.		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	49.7	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ TH

641 UTH 2/18/1

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35E7

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768003

% Solids: 78.0 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.22	J	N	MS	1.3 U J N
7440-38-2	Arsenic	5.9		E	MS	J N
7440-39-3	Barium	108.		*	MS	J N
7440-41-7	Beryllium	1.0		E	MS	J + N
7440-43-9	Cadmium	5.8		*NE	MS	J N
7440-70-2	Calcium					
7440-47-3	Chromium	6.5		*	MS	~~J N~~ KSA 3/9/11
7440-48-4	Cobalt	10.9		E	MS	J N
7440-50-8	Copper	119.		NE	MS	J N
7439-89-6	Iron					
7439-92-1	Lead	612.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	6750		D*	MS	~~J N~~ KSA 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	8.2		E	MS	J N
7440-09-7	Potassium					
7782-49-2	Selenium	0.099	J	N	MS	~~3.2 U N~~ J N
7440-22-4	Silver	1.5		N	MS	J + N
7440-23-5	Sodium					
7440-28-0	Thallium	0.32	J		MS	0.64 U N
7440-62-2	Vanadium	30.6		*	MS	~~J N~~ KSA 3/9/11
7440-66-6	Zinc	1470		D*E	MS	J N 2/18/11
57-12-5	Cyanide					

Color Before: BLACK Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35E8

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768004

% Solids: 61.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12300			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	2010			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	58100			P
7439-92-1	Lead				
7439-95-4	Magnesium	4270			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1260		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	92.9	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ 814 U 2/18/11

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35E8

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768004

% Solids: 61.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.98	J	N	MS	1.6 UJ M
7440-38-2	Arsenic	27.3		E	MS	J K
7440-39-3	Barium	261.		*	MS	J K
7440-41-7	Beryllium	0.89		E	MS	J+ K
7440-43-9	Cadmium	2.0		*NE	MS	J K
7440-70-2	Calcium					
7440-47-3	Chromium	5.6		*	MS	~~J~~ K HSA 3/8/11
7440-48-4	Cobalt	12.3		E	MS	J K
7440-50-8	Copper	167.		NE	MS	J K
7439-89-6	Iron					
7439-92-1	Lead	734.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	2710		D*	MS	~~J~~ K LEA 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	5.2		E	MS	J K
7440-09-7	Potassium					
7782-49-2	Selenium	0.52	J	N	MS	~~4.1 U~~ J K
7440-22-4	Silver	2.8		N	MS	J+ K
7440-23-5	Sodium					
7440-28-0	Thallium	0.45	J		MS	0.81 U K
7440-62-2	Vanadium	41.1		*	MS	~~J~~ K LEA 3/9/11
7440-66-6	Zinc	447.		*E	MS	J K 2/18/11
57-12-5	Cyanide					

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: TAN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35E9

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768005

% Solids: 74.2 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8000			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	2050			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	26000			P
7439-92-1	Lead				
7439-95-4	Magnesium	3730			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	375.	J	E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	180.	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

674 U M

674 U M 2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35E9

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768005

% Solids: 74.2 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.79	J	N	MS	1.3 UJ
7440-38-2	Arsenic	14.2		DE	MS	J
7440-39-3	Barium	79.3		*	MS	J
7440-41-7	Beryllium	0.75		E	MS	J +
7440-43-9	Cadmium	0.97		*NE	MS	J
7440-70-2	Calcium					
7440-47-3	Chromium	6.9		D*	MS	~~J~~ BA 3/9/11
7440-48-4	Cobalt	11.0		DE	MS	J
7440-50-8	Copper	201.		DNE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	187.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	1160		D*	MS	~~J~~ BA 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	5.9		DE	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	0.45	J	DN	MS	~~3.4 U~~ J
7440-22-4	Silver	0.48	J	N	MS	0.67 UJ
7440-23-5	Sodium					
7440-28-0	Thallium	0.19	J		MS	0.67 U
7440-62-2	Vanadium	36.1		D*	MS	~~J~~ BA 3/9/11
7440-66-6	Zinc	289.		D*E	MS	J 2/18/11
57-12-5	Cyanide					

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F0

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768006

% Solids: 57.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11600			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1810			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	44300			P
7439-92-1	Lead				
7439-95-4	Magnesium	6090			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	842.		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	58.1	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

865 U TK

865 U TK 2/18/11

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F0

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768006

% Solids: 57.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.44	J	N	MS	1.7 UJ
7440-38-2	Arsenic	13.3		E	MS	J
7440-39-3	Barium	123.		*	MS	J
7440-41-7	Beryllium	0.66	J	E	MS	0.87 U
7440-43-9	Cadmium	0.78	J	*NE	MS	0.87 U
7440-70-2	Calcium					
7440-47-3	Chromium	4.7		*	MS	~~J~~ 15A 3/9/11
7440-48-4	Cobalt	5.4		E	MS	J
7440-50-8	Copper	91.4		NE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	366.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	1440		D*	MS	~~J~~ 15A 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	3.9		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	0.51	J	N	MS	~~4.3 U~~ J
7440-22-4	Silver	1.2		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.31	J		MS	0.87 U
7440-62-2	Vanadium	25.8		*	MS	~~J~~ 15A 3/9/11
7440-66-6	Zinc	241.		*E	MS	J 2/18/11
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F1

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768007

% Solids: 64.0 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5900			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	934.			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	71700		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	2440			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1300		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	88.1	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ 7/2

781 U 2/18/11

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F1

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768007

% Solids: 64.0 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	1.1	J	N	MS	1.6 UJ M
7440-38-2	Arsenic	41.7		E	MS	J M
7440-39-3	Barium	424.		*	MS	J M
7440-41-7	Beryllium	0.39	J	E	MS	0.78 U M
7440-43-9	Cadmium	0.83		*NE	MS	J M
7440-70-2	Calcium					
7440-47-3	Chromium	5.2		*	MS	~~J M~~ KJA 3/9/11
7440-48-4	Cobalt	3.8		E	MS	J M
7440-50-8	Copper	42.7		NE	MS	J M
7439-89-6	Iron					
7439-92-1	Lead	394.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	421.		*	MS	~~J M~~ KJA 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	3.1		E	MS	J M
7440-09-7	Potassium					
7782-49-2	Selenium	1.5	J	N	MS	~~3.9 U~~ J M
7440-22-4	Silver	2.4		N	MS	J+ M
7440-23-5	Sodium					
7440-28-0	Thallium	0.62	J		MS	0.78 U M
7440-62-2	Vanadium	40.7		*	MS	~~J M~~ KJA 3/9/11
7440-66-6	Zinc	197.		*E	MS	J M 2/18/11
57-12-5	Cyanide					

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F2

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768008

% Solids: 74.0 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7040			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1040			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	62200		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	3760			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1090		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	75.6	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ M

676 U M 2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F2

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768008

% Solids: 74.0 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.56	J	N	MS	1.4 UJ
7440-38-2	Arsenic	35.3		E	MS	J
7440-39-3	Barium	342.		*	MS	J
7440-41-7	Beryllium	0.38	J	E	MS	0.68 U
7440-43-9	Cadmium	1.4		*NE	MS	J
7440-70-2	Calcium					
7440-47-3	Chromium	5.7		*	MS	~~J~~ 3/9/11
7440-48-4	Cobalt	4.8		E	MS	J
7440-50-8	Copper	98.6		NE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	306.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	580.		*	MS	~~J~~ 2/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	3.4		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	1.0	J	N	MS	~~3.4 U~~ J
7440-22-4	Silver	1.4		N	MS	J +
7440-23-5	Sodium					
7440-28-0	Thallium	0.41	J		MS	0.68 U
7440-62-2	Vanadium	42.3		*	MS	~~J~~ 2/9/11
7440-66-6	Zinc	360.		*E	MS	J
57-12-5	Cyanide					2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F3

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768009

% Solids: 60.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	4890			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	791.			P	822 U M
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	88900		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	2180			P	
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	1200		E	P	J+ M
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	76.1	J	E	P	822 U M 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F3

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768009

% Solids: 60.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.87	J	N	MS	1.6 UJ
7440-38-2	Arsenic	57.0		E	MS	J
7440-39-3	Barium	317.		*	MS	J
7440-41-7	Beryllium	0.41	J	E	MS	0.82 U
7440-43-9	Cadmium	0.52	J	*NE	MS	0.82 U
7440-70-2	Calcium					
7440-47-3	Chromium	4.8		*	MS	~~J~~ KaA 3/9/11
7440-48-4	Cobalt	3.6		E	MS	J
7440-50-8	Copper	41.8		NE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	541.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	436.		*	MS	~~J~~ KaA 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	3.2		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	1.4	J	N	MS	~~4.1 U~~ J
7440-22-4	Silver	2.1		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.75	J		MS	0.82 U
7440-62-2	Vanadium	48.6		*	MS	~~J~~ KaA 3/9/11
7440-66-6	Zinc	153.		*E	MS	J
57-12-5	Cyanide					2/18/11

Color Before: ORANGE Clarity Before: [illegible] Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F4

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768010

% Solids: 70.0 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5540			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	735.			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	56500			P
7439-92-1	Lead				
7439-95-4	Magnesium	2810			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1270		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	68.7	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ K

714 U K
2/18/11

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F4

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768010

% Solids: 70.0 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.88	J	N	MS	1.4 UJ
7440-38-2	Arsenic	34.0		E	MS	J
7440-39-3	Barium	422.		*	MS	J
7440-41-7	Beryllium	0.38	J	E	MS	0.71 U
7440-43-9	Cadmium	0.47	J	*NE	MS	0.71 U
7440-70-2	Calcium					
7440-47-3	Chromium	5.9		*	MS	~~J~~ KJA 3/9/11
7440-48-4	Cobalt	3.1		E	MS	J
7440-50-8	Copper	29.8		NE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	361.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	311.		*	MS	~~J~~ KJA 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	2.8		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	1.3	J	N	MS	~~3.6 U~~ J
7440-22-4	Silver	1.9		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.69	J		MS	0.71 U
7440-62-2	Vanadium	34.6		*	MS	~~J~~ KJA 3/9/11
7440-66-6	Zinc	136.		*E	MS	J
57-12-5	Cyanide					2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F5

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768011

% Solids: 77.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	5240			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	230.	J		P	644 U
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	44400			P	
7439-92-1	Lead					
7439-95-4	Magnesium	2570			P	
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	1230		E	P	J+
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	69.8	J	E	P	644 U
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F5

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768011

% Solids: 77.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony	1.2	J	N	MS
7440-38-2	Arsenic	54.8		E	MS
7440-39-3	Barium	582.		*	MS
7440-41-7	Beryllium	0.41	J	E	MS
7440-43-9	Cadmium	2.6		*NE	MS
7440-70-2	Calcium				
7440-47-3	Chromium	4.5		*	MS
7440-48-4	Cobalt	4.0		E	MS
7440-50-8	Copper	40.4		NE	MS
7439-89-6	Iron				
7439-92-1	Lead	598.			MS
7439-95-4	Magnesium				
7439-96-5	Manganese	304.		*	MS
7439-97-6	Mercury				
7440-02-0	Nickel	3.3		E	MS
7440-09-7	Potassium				
7782-49-2	Selenium	2.0	J	N	MS
7440-22-4	Silver	3.6		N	MS
7440-23-5	Sodium				
7440-28-0	Thallium	0.59	J		MS
7440-62-2	Vanadium	36.4		*	MS
7440-66-6	Zinc	604.		*E	MS
57-12-5	Cyanide				

1.3 U J
J
J
0.64 U
J
~~J~~ KA 3/9/11
J
J
~~J~~ KA 3/8/11
J
~~3.2 U~~ J
J+
0.64 U
~~J~~ KA 3/9/11
J
N/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: WHITE Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F6

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768012

% Solids: 67.5 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8220			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1040			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	94600		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	4550			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1060		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	80.6	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ a

7410 a
2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F6

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768012

% Solids: 67.5 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.38	J	N	MS	1.5 UJ
7440-38-2	Arsenic	34.3		E	MS	J
7440-39-3	Barium	121.		*	MS	J
7440-41-7	Beryllium	0.41	J	E	MS	0.74 U
7440-43-9	Cadmium	0.51	J	*NE	MS	0.74 U
7440-70-2	Calcium					
7440-47-3	Chromium	6.6		*	MS	~~J~~ KA 2/9/11
7440-48-4	Cobalt	5.5		E	MS	J
7440-50-8	Copper	55.2		NE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	334.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	831.		D*	MS	~~J~~ KA 2/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	3.9		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	0.81	J	N	MS	~~3.7 U~~ J
7440-22-4	Silver	1.4		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.44	J		MS	0.74 U
7440-62-2	Vanadium	49.9		*	MS	~~J~~ KA 2/9/11
7440-66-6	Zinc	186.		*E	MS	J
57-12-5	Cyanide					2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F7

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768013

% Solids: 54.0 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5710			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1040			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	123000		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	2360			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1410		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	109.	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ m

926 U m
2/18/11

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F7

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768013

% Solids: 54.0 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.58	J	N	MS	1.9 UJ
7440-38-2	Arsenic	37.2		E	MS	J
7440-39-3	Barium	258.		*	MS	J
7440-41-7	Beryllium	0.57	J	E	MS	0.93 U
7440-43-9	Cadmium	0.79	J	*NE	MS	0.93 U
7440-70-2	Calcium					
7440-47-3	Chromium	8.4		*	MS	~~J~~ KJA 3/9/11
7440-48-4	Cobalt	4.4		E	MS	J
7440-50-8	Copper	59.7		NE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	417.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	636.		*	MS	~~J~~ KJA 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	3.6		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	2.1	J	N	MS	~~4.6 U~~ J
7440-22-4	Silver	2.2		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.99			MS	J+
7440-62-2	Vanadium	71.7		*	MS	~~J~~ KJA 3/9/11
7440-66-6	Zinc	225.		*E	MS	J
57-12-5	Cyanide					2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F8

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768014

% Solids: 40.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	5060			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	4130			P	
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	860000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	447.	J		P	1240 U
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	209.	J	E	P	1240 U
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	32.3	J	E	P	1240 U 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F8

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768014

% Solids: 40.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.94	J	N	MS	2.5 UJ
7440-38-2	Arsenic	103.		E	MS	J
7440-39-3	Barium	36.3		*	MS	J
7440-41-7	Beryllium	10.3		E	MS	J +
7440-43-9	Cadmium	4.1		*NE	MS	J
7440-70-2	Calcium					
7440-47-3	Chromium	1.6	J	*	MS	2.5 U
7440-48-4	Cobalt	17.0		E	MS	J
7440-50-8	Copper	110.		NE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	255.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	2410		D*	MS	~~J~~ 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	3.3		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	0.21	J	N	MS	~~6.2 U~~ J
7440-22-4	Silver	0.22	J	N	MS	1.2 U
7440-23-5	Sodium					
7440-28-0	Thallium	0.26	J		MS	1.2 U
7440-62-2	Vanadium	13.4		*	MS	~~J~~ 3/9/11
7440-66-6	Zinc	2470		D*E	MS	J
57-12-5	Cyanide					

2/18/11

Color Before: RED Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F9

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768015

% Solids: 76.1 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8860			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	2020			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	67200		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	5080			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	933.		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	62.4	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ #

6570 U #
2/18/11

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35F9

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768015

% Solids: 76.1 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.41	J	N	MS	1.3 UJ
7440-38-2	Arsenic	34.0		E	MS	J
7440-39-3	Barium	191.		*	MS	J
7440-41-7	Beryllium	0.46	J	E	MS	0.66 U
7440-43-9	Cadmium	2.0		*NE	MS	J
7440-70-2	Calcium					
7440-47-3	Chromium	7.0		*	MS	~~J~~ KA 3/9/11
7440-48-4	Cobalt	5.5		E	MS	J
7440-50-8	Copper	76.4		NE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	361.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	804.		D*	MS	~~J~~ KA 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	3.6		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	1.1	J	N	MS	~~3.3 U~~ J
7440-22-4	Silver	1.4		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.36	J		MS	0.66 U
7440-62-2	Vanadium	45.2		*	MS	~~J~~ KA 3/9/11
7440-66-6	Zinc	478.		*E	MS	J 2/18/11
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G0

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768016

% Solids: 73.1 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10400			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1350			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	37000			P
7439-92-1	Lead				
7439-95-4	Magnesium	3850			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1310		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	56.6	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ [illegible]

6840 U [illegible]
2/18/11

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G0

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768016

% Solids: 73.1 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.42	J	N	MS	1.4 UJ
7440-38-2	Arsenic	46.9		DE	MS	J
7440-39-3	Barium	314.		*	MS	J
7440-41-7	Beryllium	0.96	J	DE	MS	J+
7440-43-9	Cadmium	0.35	J	*NE	MS	0.68 U
7440-70-2	Calcium					
7440-47-3	Chromium	7.8		D*	MS	~~J~~ KSA 3/9/11
7440-48-4	Cobalt	14.8		DE	MS	J
7440-50-8	Copper	77.1		DNE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	342.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	1560		D*	MS	~~J~~ KSA 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	7.5		DE	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	1.1	J	DN	MS	~~3.4 U~~ J
7440-22-4	Silver	1.5		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.75			MS	J+
7440-62-2	Vanadium	48.6		D*	MS	~~J~~ KSA 3/9/11
7440-66-6	Zinc	144.		D*E	MS	J
57-12-5	Cyanide					2/18/11

Color Before: BROWN Clarity Before: [illegible] Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G1

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768017

% Solids: 26.3 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	5070			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	1150	J		P	1900 U
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	341000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	2130			P	
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	1160	J	E	P	1900 U
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	77.5	J	E	P	1900 U 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G1

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768017

% Solids: 26.3 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	1.4	J	N	MS	3.8 U J
7440-38-2	Arsenic	115.		E	MS	J
7440-39-3	Barium	80.6		*	MS	J
7440-41-7	Beryllium	0.29	J	E	MS	1.9 U
7440-43-9	Cadmium	0.45	J	*NE	MS	1.9 U
7440-70-2	Calcium					
7440-47-3	Chromium	6.2		*	MS	~~J~~ KJA 2/9/11
7440-48-4	Cobalt	2.1		E	MS	J
7440-50-8	Copper	112.		NE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	1700			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	540.		*	MS	~~J~~ KJA 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	2.3		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	0.63	J	N	MS	~~9.5 U~~ J
7440-22-4	Silver	4.1		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.43	J		MS	1.9 U
7440-62-2	Vanadium	96.9		*	MS	~~J~~ KJA 3/9/11
7440-66-6	Zinc	177.		*E	MS	J
57-12-5	Cyanide					2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G2

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768018

% Solids: 63.9 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6160			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	867.			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	57100			P
7439-92-1	Lead				
7439-95-4	Magnesium	2360			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1350		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	100.	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ [illegible]

782 U [illegible]
2/18/1

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G2

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768018

% Solids: 63.9 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.44	J	N	MS	1.6 UJ
7440-38-2	Arsenic	24.3		E	MS	J
7440-39-3	Barium	226.		*	MS	J
7440-41-7	Beryllium	0.47	J	E	MS	0.78 U
7440-43-9	Cadmium	0.44	J	*NE	MS	0.78 U
7440-70-2	Calcium					
7440-47-3	Chromium	6.9		*	MS	~~J~~ KsA 3/9/11
7440-48-4	Cobalt	2.9		E	MS	J
7440-50-8	Copper	47.8		NE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	304.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	407.		*	MS	~~J~~ KsA 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	2.8		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	2.0	J	N	MS	~~3.9 U~~ J
7440-22-4	Silver	1.9		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.80			MS	J+
7440-62-2	Vanadium	56.3		*	MS	~~J~~ KsA 3/9/11
7440-66-6	Zinc	131.		*E	MS	J 2/18/11
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G3

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768019

% Solids: 78.6 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7840			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1120			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	33000			P
7439-92-1	Lead				
7439-95-4	Magnesium	6800			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	510.	J	E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	25.2	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

636 U 22

636 U 22
2/18/11

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G3

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768019

% Solids: 78.6 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.59	J	N	MS	1.3 UJ
7440-38-2	Arsenic	37.7		E	MS	J
7440-39-3	Barium	95.5		*	MS	J
7440-41-7	Beryllium	0.46	J	E	MS	0.64 U
7440-43-9	Cadmium	17.5		*NE	MS	J
7440-70-2	Calcium					
7440-47-3	Chromium	7.9		*	MS	J KA 3/9/11
7440-48-4	Cobalt	9.3		E	MS	J
7440-50-8	Copper	159.		NE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	847.		D	MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	1200		D*	MS	J KA 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	7.1		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	0.92	J	N	MS	~~3.2 UJ~~ J
7440-22-4	Silver	2.9		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.42	J		MS	0.64 U
7440-62-2	Vanadium	65.9		*	MS	J KA 3/9/11
7440-66-6	Zinc	4910		D*E	MS	J 2/18/11
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G4

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768020

% Solids: 61.5 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	6640			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	1050			P	
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	81600		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	3090			P	
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	1230		E	P	J+ [illegible]
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	94.7	J	E	P	813 U [illegible]
7440-28-0	Thallium					J [illegible] 2/18/11
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G4

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35E5

Matrix: Soil Lab Sample ID: 1030768020

% Solids: 61.5 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.33	J	N	MS	1.6 UJ
7440-38-2	Arsenic	34.7		E	MS	J
7440-39-3	Barium	250.		*	MS	J
7440-41-7	Beryllium	0.56	J	E	MS	0.81 U
7440-43-9	Cadmium	2.7		*NE	MS	J
7440-70-2	Calcium					
7440-47-3	Chromium	9.9		*	MS	J KA 3/9/11
7440-48-4	Cobalt	6.4		E	MS	J
7440-50-8	Copper	60.0		NE	MS	J
7439-89-6	Iron					
7439-92-1	Lead	346.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	1380		D*	MS	J KA 3/9/11
7439-97-6	Mercury					
7440-02-0	Nickel	4.7		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	2.0	J	N	MS	~~4.1 U~~ J
7440-22-4	Silver	1.7		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.90			MS	J+
7440-62-2	Vanadium	72.2		*	MS	J KA 3/9/11
7440-66-6	Zinc	693.		*E	MS	J
57-12-5	Cyanide					2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

REGION VIII
DATA VALIDATION REPORT
INORGANIC

Case/TDD No.	Site Name		Operable Unit
40755 / 1008-16	Upper Animas Mining District		
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
ALS Laboratory Group	EPW05026	MH35G5	

Review Assigned Date: December 15, 2010 Data Validator: Fred Luck
Review Completion Date: February 18, 2011 Report Reviewer: Lesley Boyd

Sample ID	Matrix	Analysis
MH35G5	Sediment	CLP –Metals
MH35G6		
MH35G7		
MH35G8		
MH35G9		
MH35H0		
MH35H1		
MH35H2		
MH35H3		
MH35H4		
MH35H5		
MH35H6		
MH35H8	Mine Sediment	
MH35H9		

Sample ID	Matrix	Analysis
MH35J0	Sediment	CLP –Metals
MH35J1		
MH35J2	Mine Sediment	
MH35J3	Sediment	
MH35J4	Soil - Surface	
MH35J5		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes _____ No ___X_____

CLP Project Officer Attention Required? Yes _____ No ____X____ If yes, list the items that require attention:

INORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," January 2010.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-15% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, Case No. 40755, SDG No. MH35G5, consisted of twenty sediment / mine sediment / soil –surface samples for metals by ICP-AES and ICP-MS (ISM01.2). The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH35G5, MH35G6, MH35G7, MH35G8, MH35G9, MH35H1, MH35H2, MH35H3, MH35H4, MH35H5, MH35H6, MH35H9, MH35J0, MH35J1, MH35J2, MH35J3, MH35J4, MH35J5	Antimony	U	Blank Contamination	3
MH35G5, MH35G6, MH35G7, MH35G9, MH35H0, MH35H1, MH35H2, MH35H3, MH35H4, MH35H5, MH35H6, MH35H8, MH35H9, MH35J1, MH35J2, MH35J3, MH35J4, MH35J5	Beryllium			
MH35G6, MH35G7, MH35G8, MH35G9, MH35H1, MH35H2, MH35H3, MH35H4, MH35H5, MH35H8, MH35H9, MH35J1, MH35J2, MH35J3, MH35J5	Cadmium			
MH35G5, MH35G7, MH35G9, MH35H2, MH35H4, MH35H5, MH35H6, MH35J1, MH35J2	Calcium			
MH35H9	Chromium			
MH35G7, MH35G9, MH35H0, MH35H8, MH35H9	Cobalt			
MH35G7, MH35G9, MH35H0, MH35H2, MH35H4, MH35H8, MH35H9, MH35J1, MH35J2	Magnesium			
MH35G7, MH35H0, MH35H8 MH35H9	Nickel			

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH35G5, MH35G7, MH35G9, MH35H0, MH35H1, MH35H2, MH35H3, MH35H4, MH35H6, MH35H8, MH35H9, MH35J0, MH35J1, MH35J2, MH35J3	Potassium	U	Blank Contamination	3
MH35G5, MH35G6, MH35G7, MH35G8, MH35G9, MH35H0, MH35H1, MH35H2, MH35H3, MH35H4, MH35H5, MH35H6, MH35H8, MH35H9, MH35J0 MH35J1, MH35J2, MH35J3, MH35J4, MH35J5	Selenium			
MH35G7, MH35G8, MH35H1, MH35H8, MH35H9, MH35J2, MH35J3	Silver			
MH35G5, MH35G6, MH35G7, MH35G8, MH35G9, MH35H0, MH35H1, MH35H2, MH35H3, MH35H4, MH35H5, MH35H6, MH35H8, MH35H9, MH35J0, MH35J1, MH35J2, MH35J3, MH35J4, MH35J5	Sodium			
MH35G5, MH35G7, MH35G8, MH35G9, MH35H0, MH35H2, MH35H3, MH35H4, MH35H6, MH35H8, MH35H9, MH35J0, MH35J1, MH35J2, MH35J3, MH35J4, MH35J5	Thallium			
MH35G8, MH35J0	Beryllium	J+	Potentially false positive detection in ICS check sample	4
MH35G6, MH35G8, MH35H5, MH35J4, MH35J5	Potassium			
All Samples	Thallium	UJ	Potentially false negative detection in ICS check sample	
	Selenium, Zinc	J-/ UJ	MS 30 - 74%R, Post Digestion Spike %R < 75%	7
	Antimony, Silver	J /UJ	MS <30%R, Post Digestion Spike %R ≥ 75%	
	Arsenic, Beryllium, Cadmium, Chromium, Copper, Manganese, Nickel, Zinc	J	Serial Dilution %D > 10%	8

1. PRESERVATION AND HOLDING TIMES

All technical holding times and preservation criteria were met.

Yes___ No_X_

Comments: The samples were analyzed within 180 days for the ICP metals. According to the Sample Log-In Sheet and case narrative, the two sample coolers were each received at a temperature of 7°C, which is outside the recommended temperature range of 4 ± 2°C. The Sample Log-In Sheet further indicates that neither cooler contained a Cooler Temperature Indicator Bottle, as indicated on the form to be required. There is also no indication that SMO was contacted regarding this issue, neither is any documentation of the resolution or indication of how the cooler temperature was derived provided.

When the sample preservation criteria are not met, but the sample analysis and extraction are within the technical holding times then professional judgment is used whether to qualify the data. No action was taken since the preservation exceedence was minimal and the extraction and holding times were well within the established parameters.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

2. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICV AND CCV)

The initial and continuing calibration verification standards (ICV and CCV, respectively) met SOW requirements.

Yes_X_ No____

Comments: None.

The calibration verification results were within 90-110% recovery for metals, 85-115% for cyanide, and 80-120% for mercury.

Yes_X_ No____

Comments: None.

The continuing calibration standards were run at 10% frequency or every two hours.

Yes_X_ No____

Comments: None.

3. BLANKS

The initial and continuing calibration blanks (ICB and CCB, respectively) met SOW requirements.

Yes_X_ No____

Comments: For the ICP-AES analyses, the ICB was rerun.

The continuing calibration blanks were run at 10% frequency.

Yes_X_ No____

Comments: Continuing calibration blanks were run every 10 samples.

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.

Yes_X_ No____

Comments: None.

All analyzed blanks were free of contamination.

Yes___ No_X_

Comments: The following table lists the blanks with contamination that resulted in sample qualification, elements present, affected samples, and data qualifiers:

Blank Contaminants

Blank ID	Contam-inant	CRQL (mg/Kg)	MDL (mg/Kg)	Concentration Found in Blank (mg/Kg)	Associated Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
PB	Antimony	1	0.0097	0.017	MH35G5	0.44	1.3 U
					MH35G6	0.82	1.6 U
					MH35G7	1.1	2.8 U
					MH35G8	0.14	1.3 U
					MH35G9	1.8	3.0 U
					MH35H1	0.46	3.2 U
					MH35H2	0.65	2.7 U
					MH35H3	0.20	1.3 U
					MH35H4	0.74	2.8 U
					MH35H5	0.47	2.2 U
					MH35H6	1.6	2.7 U
					MH35H9	1.2	2.9 U
					MH35J0	0.29	1.7 U
					MH35J1	1.0	3.0 U
					MH35J2	1.7	3.1 U
					MH35J3	0.51	3.5 U
					MH35J4	0.94	1.3 U
					MH35J5	0.14	1.2 U
PB	Beryllium	0.5	0.0032	0.013	MH35G5	0.25	0.63 U
					MH35G6	0.38	0.79 U
					MH35G7	0.13	1.4 U
					MH35G9	0.74	1.5 U
					MH35H0	0.37	1.1 U
					MH35H1	1.1	1.6 U
					MH35H2	0.33	1.4 U
					MH35H3	0.23	0.64 U
					MH35H4	0.41	1.4 U
					MH35H5	0.44	1.1 U
					MH35H6	0.52	1.4 U
					MH35H8	0.26	1.7 U
					MH35H9	1.2	1.5 U
					MH35J1	0.26	1.5 U
					MH35J2	0.13	1.5 U
					MH35J3	1.6	1.7 U
					MH35J4	0.48	0.64 U
					MH35J5	0.44	0.60 U
PB	Cadmium	0.5	0.0027	0.004	MH35G6	0.73	0.79 U
					MH35G7	0.11	1.4 U
					MH35G8	0.42	0.64 U
					MH35G9	1.2	1.5 U
					MH35H1	1.1	1.6 U
					MH35H2	0.58	1.4 U
					MH35H3	0.51	0.64 U
					MH35H4	0.50	1.4 U
					MH35H5	0.70	1.1 U
					MH35H8	0.12	1.7 U
					MH35H9	0.74	1.5 U
					MH35J1	0.28	1.5 U
					MH35J2	1.2	1.5 U
					MH35J3	1.1	1.7 U
					MH35J5	0.11	0.60 U.

Blank ID	Contam-inant	CRQL (mg/Kg)	MDL (mg/Kg)	Concentration Found in Blank (mg/Kg)	Associated Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
PB	Calcium	500	1.7	1.957	MH35G5	195	627 U
					MH35G7	1110	1380 U
					MH35G9	1390	1500 U
					MH35H2	1330	1370 U
					MH35H4	1110	1410 U
					MH35H5	859	1100 U
					MH35H6	1270	1370 U
					MH35J1	1070	1510 U
					MH35J2	729	1530 U
PB	Chromium	1	0.026	0.060	MH35H9	0.62	2.9 U
PB	Cobalt	1	0.0053	0.500	MH35G7	1.4	2.8 U
					MH35G9	2.3	3.0 U
					MH35H0	1.1	2.2 U
					MH35H8	1.1	3.4 U
					MH35H9	0.62	2.9 U
PB	Magnesium	500	1.2	2.721	MH35G7	753	1380 U
					MH35G9	646	1500 U
					MH35H0	791	1120 U
					MH35H2	1150	1370 U
					MH35H4	941	1410 U
					MH35H8	1460	1680 U
					MH35H9	327	1460 U
					MH35J1	1020	1510 U
					MH35J2	1040	1530 U
PB	Nickel	0.5	0.013	0.500	MH35G7	0.99	1.4 U
					MH35H0	1.1	1.1 U
					MH35H8	1.1	1.7 U
					MH35H9	0.59	1.5 U
PB	Potassium	500	5.8	-8.872	MH35G5	606	627 U
					MH35G7	498	1380 U
					MH35G9	514	1500 U
					MH35H0	504	1120 U
					MH35H1	817	1580 U
					MH35H2	729	1370 U
					MH35H3	297	638 U
					MH35H4	730	1410 U
					MH35H6	956	1370 U
					MH35H8	583	1680 U
					MH35H9	268	1460 U
					MH35J0	703	825 U
					MH35J1	1020	1510 U
					MH35J2	373	1530 U
					MH35J3	974	1740 U
PB	Selenium	2.5	0.036	2.500	MH35G5	1.5	3.1 U
					MH35G6	1.8	4.0 U
					MH35G7	0.78	6.9 U
					MH35G8	1.0	3.2 U
					MH35G9	1.0	7.5 U
					MH35H0	0.83	5.6 U
					MH35H1	1.3	7.9 U
					MH35H2	0.83	6.9 U
					MH35H3	0.92	3.2 U
					MH35H4	0.69	7.1 U
					MH35H5	1.6	5.5 U
					MH35H6	1.1	6.9 U

Blank ID	Contam-inant	CRQL (mg/Kg)	MDL (mg/Kg)	Concentration Found in Blank (mg/Kg)	Associated Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
PB	Selenium	2.5	0.036	2.500	MH35H8	2.4	8.4 U
					MH35H9	0.34	7.3 U
					MH35J0	0.32	4.1 U
					MH35J1	1.5	7.6 U
					MH35J2	0.23	7.6 U
					MH35J3	1.2	8.7 U
					MH35J4	0.85	3.2 U
					MH35J5	0.62	3.0 U
PB	Silver	0.5	0.0023	0.015	MH35G7	0.38	1.4 U
					MH35G8	0.48	0.64 U
					MH35H1	1.4	1.6 U
					MH35H8	0.29	1.7 U
					MH35H9	0.88	1.5 U
					MH35J2	0.84	1.5 U
					MH35J3	0.56	1.7 U
PB	Sodium	500	0.73	17.117	MH35G5	26.2	627 U
					MH35G6	72.1	795 U
					MH35G7	53.5	1380 U
					MH35G8	72.2	640 U
					MH35G9	38.4	1500 U
					MH35H0	33.9	1120 U
					MH35H1	44.5	1580 U
					MH35H2	53.0	1370 U
					MH35H3	20.8	638 U
					MH35H4	73.1	1410 U
					MH35H5	102	1100 U
					MH35H6	78.6	1370 U
					MH35H8	141	1680 U
					MH35H9	28.6	1460 U
					MH35J0	25.2	825 U
					MH35J1	90.9	1510 U
					MH35J2	30.5	1530 U
					MH35J3	88.4	1740 U
					MH35J4	77.9	640 U
					MH35J5	81.2	605 U
PB	Thallium	0.5	0.0015	0.500	MH35G5	0.45	0.63 U
					MH35G6	0.64	0.79 U
					MH35G7	0.12	1.4 U
					MH35G8	0.31	0.64 U
					MH35G9	0.19	1.5 U
					MH35H0	0.11	1.1 U
					MH35H1	0.77	1.6 U
					MH35H2	0.33	1.4 U
					MH35H3	0.23	0.64 U
					MH35H4	0.33	1.4 U
					MH35H5	0.61	1.1 U
					MH35H6	0.41	1.4 U
					MH35H8	0.070	1.7 U
					MH35H9	0.017	1.5 U
					MH35J0	0.39	0.83 U
					MH35J1	0.31	1.5 U
					MH35J2	0.25	1.5 U
					MH35J3	0.50	1.7 U
					MH35J4	0.31	0.64 U
					MH35J5	0.33	0.60 U

4. INDUCTIVELY COUPLED PLASMA - INTERFERENCE CHECK SAMPLE (ICP-ICS)

The ICP interference check sample (ICS) was run at the beginning and end of each sample analysis run and every 20 analytical samples, but not prior to the ICV.

Yes_X_ No____

Comments: None.

Percent recovery of the analytes in the ICS solutions were within the range of 80-120% or the result was within ± the CRQL.

Yes___ No_X_

Comments: For Sodium, the ICP-AES Interference Check Sample Results exceeded the True Values by approximately 2.0 times the CRQL, this analysis was repeated with similar results. Results for all samples for Sodium analyses, have already been flagged 'U' due to blank contamination therefore no further qualification is applied due to the ICP-AES ICS result.

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values or no interference was noted.

Yes_X_ No___ NA____

Comments: None.

Sample results contain potential false positives and false negatives.

Yes_X_ No____

Comments: The following table lists the elements with potential false positives or false negatives that resulted in sample qualification, affected samples, and data qualifiers:

ICP Interferences

Element	Concentration Found in ICSA Sample (ug/L)	Affected Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
Beryllium	0.36	MH35G8 MH35J0	>MDL	J+
Potassium	494	MH35G6 MH35G8 MH35H5 MH35J4 MH35J5		
Thallium	-0.05	All samples	All concentrations	UJ

5. LABORATORY CONTROL SAMPLE

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No____

Comments: None.

All results were within control limits OF 70-130%.

Yes_X_ No____

Comments: None.

6. FORM 6 & 12 - DUPLICATE SAMPLE ANALYSIS

Duplicate sample analysis was performed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No___ NA___

Comments: None.

The RPDs were calculated correctly.

Yes_X_ No___ NA___

Comments: None.

For sample concentrations greater than five times the CRQL, RPDs were within 20% (limits of 35% apply for soil/sediments/tailings samples).

Yes_X_ No__ NA____

Comments: None.

For sample concentrations less than five times the CRQL, duplicate analysis results were within the control window of CRQL (absolute difference < CRQL for soils).

Yes_X_ No__ NA____

Comments: None.

7. SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No___ NA____

Comments: None.

The percent recoveries (%Rs) were calculated correctly.

Yes_X_ No___ NA____

Comments: None.

Spike recoveries were within the range of 75-125% (an exception is granted where the sample concentration is four times the spike concentration).

Yes____ No_X_

Comments: The following table lists the spike recoveries outside control limits, post digestion spike recoveries, samples affected, and data qualifiers:

Element	Matrix Spike %R	Post-Digestion %R	Samples Affected	Qualifiers
Antimony	12%	84%	All samples	J/UJ
Selenium	60%	63%		J-/UJ
Silver	6%	85%		J/UJ
Zinc	40%	68%		J-/UJ

A post-digest spike was performed for those elements that did not meet the specified criteria (i.e., Pre-digestion/pre-distillation spike recovery falls outside of control limits and sample result is less than four times the spike amount added, exception: Ag, Hg).

Yes_X_ No____ NA_____

Comments: None.

8. ICP SERIAL DILUTION

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.

Yes_X_ No____

Comments: None.

The serial dilution was without interference problems as defined by the SOW.

Yes___ No_X_

Comments: The following serial dilution %Ds were greater than 10% and the original sample result was at least 50* the MDL:

Element	% Difference	Samples Affected	Qualifiers
Arsenic	22%	All samples	J
Beryllium	28%		
Cadmium	13%		
Chromium	12%		
Copper	21%		
Manganese	12%		
Nickel	90%		
Zinc	34%		

9. ICP-MS

The ICP MS tune met SOW requirements.

Yes_X_ No___ NA____

Comments: The ICP MS instrument was correctly tuned prior to analysis and all tuning criteria were met.

The minimum number of internal standards were added to the analyses and bracketed the target analyte masses.

Yes_X_ No___

Comments: None.

All percent relative intensities were within 60-125%.

Yes_X_ No___

Comments: None.

10. REGIONAL QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC)

Regional QA/QC was conducted as initiated by the EPA Region 8.

Yes___ No__ NA _X

Comments: The SDG shows no indication of EPA Region 8 initiating any additional QA/QC.

11. FORM 10 - INTERELEMENT CORRECTION FACTORS FOR ICP

Interelement corrections for ICP were reported.

Yes_X_ No____

Comments: None.

12. FORM 12 - PREPARATION LOG

Information on the preparation of samples for analysis was reported on Form 12.

Yes_X_ No____

Comments: None.

13. FORM 13 - ANALYSIS RUN LOG

A Form 13 with the required information was filled out for each analysis run in the data package.

Yes_X_ No____

Comments: None.

14. Additional Comments or Problems/Resolutions Not Addressed Above

Page 1 of the Evidence Audit Checklist (EAC) indicates three airbills are associated with this SDG, however documentation is only provided for Airbill Number 3430, which documents the shipment of four packages. The laboratory only documented receipt of two coolers, so it is unclear as to what the other two packages were that were included on the airbill.

INORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
J+	-	The associated numerical value is an estimated quantity but the result may be biased high.
J-	-	The associated numerical value is an estimated quantity but the result may be biased low.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

ACRONYMS

AA	Atomic Absorption
Ag	Silver
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
CRA	CRQL standard required for AA
CRQL	Contract Required Quantitation Limit
CRI	CRQL standard required for ICP
CV	Cold Vapor
EPA	U.S. Environmental Protection Agency
GFAA	Graphite Furnace Atomic Absorption
Hg	Mercury
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICS	Interference Check Sample
ICSA	Interference Check Sample (Solution A)
ICSAB	Interference Check Sample (Solution AB)
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
LRA	Linear Range Verification Analysis
MDL	Method Detection Limit
PDS	Post Digestion Spike
QC	Quality Control
RPD	Relative Percent Difference
RPM	Regional Project Manager
RSD	Percent Relative Standard Deviation
SA	Spike Added
SAS	Special Analytical Services
SDG	Sample Delivery Group
SOW	Statement of Work
SR	Sample Result
SSR	Spiked Sample Result

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G5

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769001

% Solids: 79.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.44	J	N	MS	1.3 UJ n
7440-38-2	Arsenic	58.9		E	MS	J n
7440-39-3	Barium	144.			MS	
7440-41-7	Beryllium	0.25	J	E	MS	0.63 UJ n
7440-43-9	Cadmium	0.77		E	MS	J n
7440-70-2	Calcium					
7440-47-3	Chromium	4.8		E	MS	J n
7440-48-4	Cobalt	4.0			MS	
7440-50-8	Copper	64.9		E	MS	J n
7439-89-6	Iron					
7439-92-1	Lead	254.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	406.		E	MS	J n
7439-97-6	Mercury					
7440-02-0	Nickel	1.9		E	MS	J n
7440-09-7	Potassium					
7782-49-2	Selenium	1.5	J	N	MS	3.1 UJ n
7440-22-4	Silver	0.95		N	MS	J n
7440-23-5	Sodium					
7440-28-0	Thallium	0.45	J		MS	0.63 UJ n
7440-62-2	Vanadium	36.5			MS	
7440-66-6	Zinc	192.		NE	MS	J- n
57-12-5	Cyanide					

2/18/11

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35G5

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769001

% Solids: 79.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3730			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	195.	J		P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	53500			P
7439-92-1	Lead				
7439-95-4	Magnesium	2030			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	606.			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	26.2	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

627 U TL

627 U TL

627 U TL
2/18/11

Color Before: ORANGE Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G6

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769002

% Solids: 62.9 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.82	J	N	MS	1.6 UJ
7440-38-2	Arsenic	44.2		E	MS	J
7440-39-3	Barium	443.			MS	
7440-41-7	Beryllium	0.38	J	E	MS	0.79 UJ
7440-43-9	Cadmium	0.73	J	E	MS	0.79 UJ
7440-70-2	Calcium					
7440-47-3	Chromium	4.6		E	MS	J
7440-48-4	Cobalt	3.5			MS	
7440-50-8	Copper	35.8		E	MS	J
7439-89-6	Iron					
7439-92-1	Lead	372.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	344.		E	MS	J
7439-97-6	Mercury					
7440-02-0	Nickel	2.7		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	1.8	J	N	MS	4.0 UJ
7440-22-4	Silver	2.2		N	MS	J
7440-23-5	Sodium					
7440-28-0	Thallium	0.64	J		MS	0.79 UJ
7440-62-2	Vanadium	37.2			MS	
7440-66-6	Zinc	179.		NE	MS	J- 2/18/11
57-12-5	Cyanide					

Color Before: ORANGE Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35G6

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769002

% Solids: 62.9 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4750			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	854.			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	73000		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	1890			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1150			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	72.1	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ TM

795 U TL
2/18/11

Color Before: ORANGE Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G7

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769005

% Solids: 36.2 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	1.1	J	N	MS	2.8UJ M
7440-38-2	Arsenic	36.7		E	MS	J N
7440-39-3	Barium	30.7			MS	
7440-41-7	Beryllium	0.13	J	E	MS	1.4UJ N
7440-43-9	Cadmium	0.11	J	E	MS	1.4UJ N
7440-70-2	Calcium					
7440-47-3	Chromium	5.1		E	MS	J N
7440-48-4	Cobalt	1.4	J		MS	2.8U N
7440-50-8	Copper	113.		E	MS	J N
7439-89-6	Iron					
7439-92-1	Lead	136.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	156.		E	MS	J N
7439-97-6	Mercury					
7440-02-0	Nickel	0.99	J	E	MS	1.4UJ N
7440-09-7	Potassium					
7782-49-2	Selenium	0.78	J	N	MS	6.9UJ N
7440-22-4	Silver	0.38	J	N	MS	1.4UJ N
7440-23-5	Sodium					
7440-28-0	Thallium	0.12	J		MS	1.4UJ N
7440-62-2	Vanadium	27.8			MS	
7440-66-6	Zinc	44.1		NE	MS	J- N 2/18/11
57-12-5	Cyanide					

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35G7

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769005

% Solids: 36.2 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2020			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	1110			P	1380 U
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	397000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	753.	J		P	1380 U
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	498.	J		P	1380 U
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	53.5	J	E	P	1380 U
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G8

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769006

% Solids: 78.1 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.14	J	N	MS	1.3UJ N
7440-38-2	Arsenic	11.6		E	MS	J N
7440-39-3	Barium	78.8			MS	N
7440-41-7	Beryllium	0.66		E	MS	J+
7440-43-9	Cadmium	0.42	J	E	MS	0.64UJ N
7440-70-2	Calcium					
7440-47-3	Chromium	6.2		E	MS	J N
7440-48-4	Cobalt	6.5			MS	
7440-50-8	Copper	65.0		E	MS	J N
7439-89-6	Iron					
7439-92-1	Lead	145.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	839.		DE	MS	J N
7439-97-6	Mercury					
7440-02-0	Nickel	4.2		E	MS	J N
7440-09-7	Potassium					
7782-49-2	Selenium	1.0	J	N	MS	3.2UJ N
7440-22-4	Silver	0.48	J	N	MS	0.64UJ N
7440-23-5	Sodium					
7440-28-0	Thallium	0.31	J		MS	0.64UJ N
7440-62-2	Vanadium	52.2			MS	
7440-66-6	Zinc	145.		NE	MS	J- N
57-12-5	Cyanide					2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G8

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769006

% Solids: 78.1 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8370			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1230			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	34800			P
7439-92-1	Lead				
7439-95-4	Magnesium	1460			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	902.			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	72.2	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ M

640 U M
2/18/11

Color Before: ORANGE Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35G9

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769007

% Solids: 33.3 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	1.8	J	N	MS	3.0 U J M
7440-38-2	Arsenic	24.5		E	MS	J M
7440-39-3	Barium	36.1			MS	
7440-41-7	Beryllium	0.74	J	E	MS	1.5 U J M
7440-43-9	Cadmium	1.2	J	E	MS	1.5 U J M
7440-70-2	Calcium					
7440-47-3	Chromium	6.1		E	MS	J M
7440-48-4	Cobalt	2.3			MS	3.0 U M
7440-50-8	Copper	147.		E	MS	J M
7439-89-6	Iron					
7439-92-1	Lead	773.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	489.		E	MS	J M
7439-97-6	Mercury					
7440-02-0	Nickel	2.0		E	MS	J M
7440-09-7	Potassium					
7782-49-2	Selenium	1.0	J	N	MS	7.5 U J M
7440-22-4	Silver	8.5		N	MS	J M
7440-23-5	Sodium					
7440-28-0	Thallium	0.19	J		MS	1.5 U J M
7440-62-2	Vanadium	34.0			MS	
7440-66-6	Zinc	465.		NE	MS	J- M 2/18/11
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35G9

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769007

% Solids: 33.3 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	3850			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	1390			P	1500 U TK
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	218000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	646.	J		P	1500 U TK
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	514.	J		P	1500 U TK
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	38.4	J	E	P	1500 U TK
7440-28-0	Thallium					2/18/11
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: RED Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35H0

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769008

% Solids: 44.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	2.3		N	MS	J
7440-38-2	Arsenic	23.2		E	MS	J
7440-39-3	Barium	46.5			MS	
7440-41-7	Beryllium	0.37	J	E	MS	1.1 UJ
7440-43-9	Cadmium	2.4		E	MS	J
7440-70-2	Calcium					
7440-47-3	Chromium	4.0		E	MS	J
7440-48-4	Cobalt	1.1	J		MS	2.2 U
7440-50-8	Copper	112.		E	MS	J
7439-89-6	Iron					
7439-92-1	Lead	457.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	239.		E	MS	J
7439-97-6	Mercury					
7440-02-0	Nickel	1.1		E	MS	1.1 UJ
7440-09-7	Potassium					
7782-49-2	Selenium	0.83	J	N	MS	5.6 UJ
7440-22-4	Silver	3.9		N	MS	J
7440-23-5	Sodium					
7440-28-0	Thallium	0.11	J		MS	1.1 UJ
7440-62-2	Vanadium	31.7			MS	
7440-66-6	Zinc	1040		DNE	MS	J-
57-12-5	Cyanide					

2/18/11

Color Before: RED Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35H0

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769008

% Solids: 44.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4670			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1130			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	442000		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	791.			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	504.	J		P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	33.9	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

1120 U M

1120 U M

1120 U M
2/18/11

Color Before: RED Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35H1

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769009

% Solids: 31.6 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.46	J	N	MS	3.2UJ n
7440-38-2	Arsenic	57.5		E	MS	J n
7440-39-3	Barium	200.			MS	
7440-41-7	Beryllium	1.1	J	E	MS	1.6UJ n
7440-43-9	Cadmium	1.1	J	E	MS	1.6UJ n
7440-70-2	Calcium					
7440-47-3	Chromium	11.9		E	MS	J n
7440-48-4	Cobalt	23.7			MS	
7440-50-8	Copper	250.		E	MS	J n
7439-89-6	Iron					
7439-92-1	Lead	1460		D	MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	2360		DE	MS	J m.
7439-97-6	Mercury					
7440-02-0	Nickel	12.3		E	MS	J n
7440-09-7	Potassium					
7782-49-2	Selenium	1.3	J	N	MS	7.9UJ n
7440-22-4	Silver	1.4	J	N	MS	1.6UJ n
7440-23-5	Sodium					
7440-28-0	Thallium	0.77	J		MS	1.6UJ n
7440-62-2	Vanadium	62.0			MS	
7440-66-6	Zinc	378.		NE	MS	J- n
57-12-5	Cyanide					2/18/11

Color Before: BLACK Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35H1

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769009

% Solids: 31.6 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8140			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1940			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	65400			P
7439-92-1	Lead				
7439-95-4	Magnesium	2260			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	817.	J		P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	44.5	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

1580 U m

1580 U m
2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35H2

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769010

% Solids: 36.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.65	J	N	MS	2.7 UJ K
7440-38-2	Arsenic	15.2		E	MS	J K
7440-39-3	Barium	71.6			MS	
7440-41-7	Beryllium	0.33	J	E	MS	1.4 UJ K
7440-43-9	Cadmium	0.58	J	E	MS	1.4 UJ K
7440-70-2	Calcium					
7440-47-3	Chromium	6.4		E	MS	J K
7440-48-4	Cobalt	6.8			MS	
7440-50-8	Copper	124.		E	MS	J K
7439-89-6	Iron					
7439-92-1	Lead	341.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	2010		DE	MS	J K
7439-97-6	Mercury					
7440-02-0	Nickel	2.2		E	MS	J K
7440-09-7	Potassium					
7782-49-2	Selenium	0.83	J	N	MS	6.9 UJ K
7440-22-4	Silver	4.0		N	MS	J K
7440-23-5	Sodium					
7440-28-0	Thallium	0.33	J		MS	1.4 UJ K
7440-62-2	Vanadium	27.3			MS	
7440-66-6	Zinc	242.		NE	MS	J- K
57-12-5	Cyanide					2/18/11

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35H2

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769010

% Solids: 36.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	4940			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	1330			P	1370 U TM
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	159000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	1150			P	1370 U TM
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	729.	J		P	1370 U TM
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	53.0	J	E	P	1370 U TM
7440-28-0	Thallium					2/18/11
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35H3

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769011

% Solids: 78.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.20	J	N	MS	1.3 U J M
7440-38-2	Arsenic	26.2		E	MS	J M
7440-39-3	Barium	51.8			MS	
7440-41-7	Beryllium	0.23	J	E	MS	0.64 U J M
7440-43-9	Cadmium	0.51	J	E	MS	0.64 U J M
7440-70-2	Calcium					
7440-47-3	Chromium	9.1		E	MS	J M
7440-48-4	Cobalt	4.3			MS	
7440-50-8	Copper	42.8		E	MS	J M
7439-89-6	Iron					
7439-92-1	Lead	294.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	624.		DE	MS	J M
7439-97-6	Mercury					
7440-02-0	Nickel	4.1		E	MS	J M
7440-09-7	Potassium					
7782-49-2	Selenium	0.92	J	N	MS	3.2 U J M
7440-22-4	Silver	0.88		N	MS	J M
7440-23-5	Sodium					
7440-28-0	Thallium	0.23	J		MS	0.64 U J M
7440-62-2	Vanadium	29.1			MS	
7440-66-6	Zinc	145.		NE	MS	J- M
57-12-5	Cyanide					2/18/11

Color Before: YELLOW Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35H3

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769011

% Solids: 78.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9330			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1710			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	18200			P
7439-92-1	Lead				
7439-95-4	Magnesium	8680			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	297.	J		P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	20.8	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

638 U TM

638 U TM 2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35H4

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769012

% Solids: 35.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.74	J	N	MS	2.8UJ M
7440-38-2	Arsenic	20.5		E	MS	J N
7440-39-3	Barium	61.9			MS	
7440-41-7	Beryllium	0.41	J	E	MS	1.4UJ N
7440-43-9	Cadmium	0.50	J	E	MS	1.4UJ N
7440-70-2	Calcium					
7440-47-3	Chromium	4.3		E	MS	J N
7440-48-4	Cobalt	6.0			MS	
7440-50-8	Copper	84.0		E	MS	J N
7439-89-6	Iron					
7439-92-1	Lead	362.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	1910		DE	MS	J N
7439-97-6	Mercury					
7440-02-0	Nickel	1.6		E	MS	J N
7440-09-7	Potassium					
7782-49-2	Selenium	0.69	J	N	MS	7.1UJ N
7440-22-4	Silver	2.3		N	MS	J N
7440-23-5	Sodium					
7440-28-0	Thallium	0.33	J		MS	1.4UJ N
7440-62-2	Vanadium	29.7			MS	M
7440-66-6	Zinc	240.		NE	MS	J- 2/18/11
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35H4

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769012

% Solids: 35.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	4520			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	1110			P	1410 U
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	203000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	941.	J		P	1410 U
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	730.	J		P	1410 U
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	73.1	J	E	P	1410 U 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: RED Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35H5

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769013

% Solids: 45.3 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.47	J	N	MS	2.2 UJ n
7440-38-2	Arsenic	20.3		E	MS	J n
7440-39-3	Barium	142.			MS	
7440-41-7	Beryllium	0.44	J	E	MS	1.1 UJ n
7440-43-9	Cadmium	0.70	J	E	MS	1.1 UJ n
7440-70-2	Calcium					
7440-47-3	Chromium	6.4		E	MS	J n
7440-48-4	Cobalt	3.2			MS	
7440-50-8	Copper	80.7		E	MS	J n
7439-89-6	Iron					
7439-92-1	Lead	875.		D	MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	659.		E	MS	J n
7439-97-6	Mercury					
7440-02-0	Nickel	2.9		E	MS	J n
7440-09-7	Potassium					
7782-49-2	Selenium	1.6	J	N	MS	5.5 UJ n
7440-22-4	Silver	2.3		N	MS	J n
7440-23-5	Sodium					
7440-28-0	Thallium	0.61	J		MS	1.1 UJ n
7440-62-2	Vanadium	62.0			MS	
7440-66-6	Zinc	206.		NE	MS	J - n
57-12-5	Cyanide					
						2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35H5

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769013

% Solids: 45.3 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	6730			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	859.			P	1100 U M
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	144000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	2820			P	
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	1250			P	J+ M
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	102.	J	E	P	1100 U M 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35H6

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769014

% Solids: 36.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	1.6	J	N	MS	2.7 UJ n
7440-38-2	Arsenic	35.6		E	MS	J n
7440-39-3	Barium	85.9			MS	
7440-41-7	Beryllium	0.52	J	E	MS	1.4 UJ n
7440-43-9	Cadmium	2.7		E	MS	J n
7440-70-2	Calcium					
7440-47-3	Chromium	8.0		E	MS	J n
7440-48-4	Cobalt	4.7			MS	
7440-50-8	Copper	212.		E	MS	J n
7439-89-6	Iron					
7439-92-1	Lead	2050		D	MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	1300		DE	MS	J n
7439-97-6	Mercury					
7440-02-0	Nickel	2.5		E	MS	J n
7440-09-7	Potassium					
7782-49-2	Selenium	1.1	J	N	MS	6.9 UJ n
7440-22-4	Silver	5.0		N	MS	J n
7440-23-5	Sodium					
7440-28-0	Thallium	0.41	J		MS	1.4 UJ n
7440-62-2	Vanadium	37.2			MS	
7440-66-6	Zinc	628.		NE	MS	J n
57-12-5	Cyanide					2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35H6

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769014

% Solids: 36.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	5750			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	1270			P	1370 U 2
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	266000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	2370			P	
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	956.	J		P	1370 U 2
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	78.6	J	E	P	1370 U 2 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: ORANGE Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35H8

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769015

% Solids: 29.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	5.6		N	MS	J
7440-38-2	Arsenic	126.		E	MS	J
7440-39-3	Barium	21.4			MS	
7440-41-7	Beryllium	0.26	J	E	MS	1.7 UJ
7440-43-9	Cadmium	0.12	J	E	MS	1.7 UJ
7440-70-2	Calcium					
7440-47-3	Chromium	7.4		E	MS	J
7440-48-4	Cobalt	1.1	J		MS	3.4 U
7440-50-8	Copper	369.		E	MS	J
7439-89-6	Iron					
7439-92-1	Lead	59.4			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	130.		E	MS	J
7439-97-6	Mercury					
7440-02-0	Nickel	1.1	J	E	MS	1.7 UJ
7440-09-7	Potassium					
7782-49-2	Selenium	2.4	J	N	MS	8.4 UJ
7440-22-4	Silver	0.29	J	N	MS	1.7 UJ
7440-23-5	Sodium					
7440-28-0	Thallium	0.070	J		MS	1.7 UJ
7440-62-2	Vanadium	88.0			MS	
7440-66-6	Zinc	63.3		NE	MS	J-
57-12-5	Cyanide					

2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35H8

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769015

% Solids: 29.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4960			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1820			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	519000		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	1460			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	583.	J		P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	141.	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

1680 U TM

1680 U TM

1680 U TM
2/18/11

Color Before: ORANGE Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35H9

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769016

% Solids: 34.2 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	1.2	J	N	MS	2.9 UJ K
7440-38-2	Arsenic	43.9		E	MS	J K
7440-39-3	Barium	3.5	J		MS	
7440-41-7	Beryllium	1.2	J	E	MS	1.5 UJ K
7440-43-9	Cadmium	0.74	J	E	MS	1.5 UJ K
7440-70-2	Calcium					
7440-47-3	Chromium	0.62	J	E	MS	2.9 UJ K
7440-48-4	Cobalt	0.62	J		MS	2.9 U K
7440-50-8	Copper	11.0		E	MS	J K
7439-89-6	Iron					
7439-92-1	Lead	1740		D	MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	107.		E	MS	J K
7439-97-6	Mercury					
7440-02-0	Nickel	0.59	J	E	MS	1.5 UJ K
7440-09-7	Potassium					
7782-49-2	Selenium	0.34	J	N	MS	7.3 UJ K
7440-22-4	Silver	0.88	J	N	MS	1.5 UJ K
7440-23-5	Sodium					
7440-28-0	Thallium	0.017	J		MS	1.5 UJ K
7440-62-2	Vanadium	12.4			MS	
7440-66-6	Zinc	361.		NE	MS	J- K
57-12-5	Cyanide					2/18/11

Color Before: RED Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35H9

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769016

% Solids: 34.2 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	3170			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	1490			P	
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	445000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	327.	J		P	1460 U TM
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	268.	J		P	1460 U TM
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	28.6	J	E	P	1460 U TM 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: ORANGE Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35J0

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769017

% Solids: 60.6 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.29	J	N	MS	1.7 U J n
7440-38-2	Arsenic	33.3		E	MS	J n
7440-39-3	Barium	92.7			MS	
7440-41-7	Beryllium	1.1		E	MS	J + n
7440-43-9	Cadmium	1.3		E	MS	J n
7440-70-2	Calcium					
7440-47-3	Chromium	7.6		E	MS	J n
7440-48-4	Cobalt	16.5			MS	
7440-50-8	Copper	209.		E	MS	J n
7439-89-6	Iron					
7439-92-1	Lead	711.		D	MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	4130		DE	MS	J n
7439-97-6	Mercury					
7440-02-0	Nickel	8.0		E	MS	J n
7440-09-7	Potassium					
7782-49-2	Selenium	0.32	J	N	MS	4.1 U J n
7440-22-4	Silver	2.1		N	MS	J n
7440-23-5	Sodium					
7440-28-0	Thallium	0.39	J		MS	0.83 U J n
7440-62-2	Vanadium	64.1			MS	
7440-66-6	Zinc	289.		NE	MS	J - n
57-12-5	Cyanide					2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35J0

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769017

% Solids: 60.6 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13700			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1660			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	37300			P
7439-92-1	Lead				
7439-95-4	Magnesium	8730			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	703.			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	25.2	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

825 U
825 U
2/18/11

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35J1

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769018

% Solids: 33.1 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	1.0	J	N	MS	3.0 UJ
7440-38-2	Arsenic	49.8		E	MS	J
7440-39-3	Barium	75.6			MS	
7440-41-7	Beryllium	0.26	J	E	MS	1.5 UJ
7440-43-9	Cadmium	0.28	J	E	MS	1.5 UJ
7440-70-2	Calcium					
7440-47-3	Chromium	7.1		E	MS	J
7440-48-4	Cobalt	3.9			MS	
7440-50-8	Copper	96.7		E	MS	J
7439-89-6	Iron					
7439-92-1	Lead	421.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	618.		E	MS	J
7439-97-6	Mercury					
7440-02-0	Nickel	3.6		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	1.5	J	N	MS	7.6 UJ
7440-22-4	Silver	2.4		N	MS	J
7440-23-5	Sodium					
7440-28-0	Thallium	0.31	J		MS	1.5 UJ
7440-62-2	Vanadium	43.1			MS	
7440-66-6	Zinc	98.1		NE	MS	J-
57-12-5	Cyanide					

2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35J1

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769018

% Solids: 33.1 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	3240			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	1070	J		P	1510 U
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	300000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	1210	J		P	1510 U
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	1020	J		P	1510 U
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	90.9	J	E	P	1510 U 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35J2

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769019

% Solids: 32.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	1.7	J	N	MS	3.1 U J N
7440-38-2	Arsenic	49.1		E	MS	J N
7440-39-3	Barium	41.3			MS	
7440-41-7	Beryllium	0.13	J	E	MS	1.5 U J N
7440-43-9	Cadmium	1.0	J	E	MS	1.5 U J N
7440-70-2	Calcium					
7440-47-3	Chromium	2.2	J	E	MS	J N
7440-48-4	Cobalt	16.6			MS	
7440-50-8	Copper	32.8		E	MS	J N
7439-89-6	Iron					
7439-92-1	Lead	419.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	2110		DE	MS	J N
7439-97-6	Mercury					
7440-02-0	Nickel	1.7		E	MS	J N
7440-09-7	Potassium					
7782-49-2	Selenium	0.23	J	N	MS	7.6 U J N
7440-22-4	Silver	0.84	J	N	MS	1.5 U J N
7440-23-5	Sodium					
7440-28-0	Thallium	0.25	J		MS	1.5 U J N
7440-62-2	Vanadium	12.0			MS	
7440-66-6	Zinc	232.		NE	MS	J- N
57-12-5	Cyanide					2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35J2

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769019

% Solids: 32.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2320			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	729.	J		P	1530 U ZK
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	462000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	1040	J		P	1530 U ZK
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	373.	J		P	1530 U ZK
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	30.5	J	E	P	1530 U ZK
7440-28-0	Thallium					2/18/11
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: ORANGE Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35J3

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769020

% Solids: 28.6 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.51	J	N	MS	3.5 U J N
7440-38-2	Arsenic	26.7		E	MS	J N
7440-39-3	Barium	159.			MS	
7440-41-7	Beryllium	1.6	J	E	MS	1.7 U J N
7440-43-9	Cadmium	1.0	J	E	MS	1.7 U J N
7440-70-2	Calcium					
7440-47-3	Chromium	5.1		E	MS	J N
7440-48-4	Cobalt	18.6			MS	
7440-50-8	Copper	216.		E	MS	J N
7439-89-6	Iron					
7439-92-1	Lead	210.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	897.		E	MS	J N
7439-97-6	Mercury					
7440-02-0	Nickel	6.0		E	MS	J N
7440-09-7	Potassium					
7782-49-2	Selenium	1.2	J	N	MS	8.7 U J N
7440-22-4	Silver	0.56	J	N	MS	1.7 U J N
7440-23-5	Sodium					
7440-28-0	Thallium	0.50	J		MS	1.7 U J N
7440-62-2	Vanadium	31.3			MS	
7440-66-6	Zinc	339.		NE	MS	J- N
57-12-5	Cyanide					2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35J3

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769020

% Solids: 28.6 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	28200			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1950			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	62200			P
7439-92-1	Lead				
7439-95-4	Magnesium	2280			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	974.	J		P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	88.4	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

1740 U ZK

1740 U ZK 2/18/11

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35J4

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769021

% Solids: 78.1 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.94	J	N	MS	1.3 U J N
7440-38-2	Arsenic	23.7		E	MS	J N
7440-39-3	Barium	117.			MS	
7440-41-7	Beryllium	0.48	J	E	MS	0.64 U J N
7440-43-9	Cadmium	9.6		E	MS	J N
7440-70-2	Calcium					
7440-47-3	Chromium	8.4		E	MS	J N
7440-48-4	Cobalt	8.0			MS	
7440-50-8	Copper	244.		E	MS	J N
7439-89-6	Iron					
7439-92-1	Lead	1820		D	MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	1180		DE	MS	J N
7439-97-6	Mercury					
7440-02-0	Nickel	5.8		E	MS	J N
7440-09-7	Potassium					
7782-49-2	Selenium	0.85	J	N	MS	3.2 U J N
7440-22-4	Silver	5.4		N	MS	J N
7440-23-5	Sodium					
7440-28-0	Thallium	0.31	J		MS	0.64 U J N
7440-62-2	Vanadium	53.6			MS	
7440-66-6	Zinc	2610		DNE	MS	J- N
57-12-5	Cyanide					2/18/11

Color Before: YELLOW Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35J4

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769021

% Solids: 78.1 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13900			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	5910			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	47800			P
7439-92-1	Lead				
7439-95-4	Magnesium	11200			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1070			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	77.9	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ 7K

640 U 7K
2/18/11

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35J5

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769022

% Solids: 82.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.14	J	N	MS	1.2 U J m
7440-38-2	Arsenic	13.5		E	MS	J n
7440-39-3	Barium	113.			MS	
7440-41-7	Beryllium	0.44	J	E	MS	0.60 U J n
7440-43-9	Cadmium	0.11	J	E	MS	0.60 U J m
7440-70-2	Calcium					
7440-47-3	Chromium	10.		E	MS	J n
7440-48-4	Cobalt	6.8			MS	
7440-50-8	Copper	40.6		E	MS	J m
7439-89-6	Iron					
7439-92-1	Lead	241.			MS	
7439-95-4	Magnesium					
7439-96-5	Manganese	796.		DE	MS	J n
7439-97-6	Mercury					
7440-02-0	Nickel	6.6		E	MS	J n
7440-09-7	Potassium					
7782-49-2	Selenium	0.62	J	N	MS	3.0 U J n
7440-22-4	Silver	1.3		N	MS	J n
7440-23-5	Sodium					
7440-28-0	Thallium	0.33	J		MS	0.60 U J n
7440-62-2	Vanadium	65.3			MS	
7440-66-6	Zinc	102.		NE	MS	J- n
57-12-5	Cyanide					2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: WHITE Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35J5

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35G5

Matrix: Soil Lab Sample ID: 1030769022

% Solids: 82.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12900			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	2080			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	36900			P
7439-92-1	Lead				
7439-95-4	Magnesium	10700			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1030			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	81.2	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ JK

605 U JK
2/18/11

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

REGION VIII
DATA VALIDATION REPORT
INORGANIC

Case/TDD No.	Site Name		Operable Unit
40755 / 1008-16	Upper Animas Mining District		
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
ALS Laboratory Group	EPW05026	MH35H7	

Review Assigned Date: December 15, 2010 Data Validator: Fred Luck
Review Completion Date: February 18, 2011 Report Reviewer: Lesley Boyd

Sample ID	Matrix	Analysis
MH35H7	Sediment	CLP –Metals
MH35J6	Soil - Surface	
MH35J7		
MH35J8		
MH35J9		
MH35K0		
MH35K1		
MH35K2		
MH35K3		
MH35K4		
MH35K5		
MH35K6		
MH35K7		

Sample ID	Matrix	Analysis
MH35K8	Sediment	CLP –Metals
MH35K9		
MH35L0		
MH35L1		
MH35L2		
MH35L3		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes _____ No ___X_____

CLP Project Officer Attention Required? Yes _____ No ___X_____ If yes, list the items that require attention:

INORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," January 2010.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-15% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, Case No. 40755, SDG No. MH35H7, consisted of nineteen sediment / soil – Surface samples for metals by ICP-AES and ICP-MS (ISM01.2). The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH35H7, MH35J7, MH35K1, MH35K2, MH35K4, MH35K5, MH35K7, MH35K8, MH35K9, MH35L1, MH35L2	Antimony	U	Blank Contamination	3
MH35H7, MH35J6, MH35J7, MH35J8, MH35J9, MH35K0 MH35K1, MH35K2, MH35K3, MH35K4, MH35K5, MH35K6, MH35K9, MH35L3	Beryllium			
MH35H7, MH35J7, MH35K2, MH35K5, MH35K9, MH35L3	Cadmium			
MH35J7, MH35J8, MH35J9, MH35K0, MH35K3, MH35K5, MH35K6, MH35K9, MH35L0, MH35L3	Calcium			
MH35K0, MH35K3, MH35K5	Chromium			
MH35J8, MH35J9, MH35K0, MH35K3, MH35K5, MH35L3	Cobalt			
MH35J7, MH35J8, MH35J9, MH35K0, MH35K3, MH35K5, MH35K9, MH35L3	Magnesium			
MH35J8, MH35J9, MH35K0, MH35K3, MH35K5, MH35L3	Nickel			
MH35J7, MH35J8, MH35K8, MH35K9, MH35L0, MH35L3	Potassium			
MH35H7, MH35J6, MH35J7, MH35J8, MH35J9, MH35K0, MH35K1, MH35K2, MH35K4, MH35K5, MH35K6, MH35K7, MH35K8, MH35K9,MH35L0, MH35L1, MH35L2, MH35L3	Selenium			
MH35H7	Silver			

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH35H7, MH35J6, MH35J7, MH35J8, MH35J9, MH35K0, MH35K1, MH35K2, MH35K3, MH35K4, MH35K5, MH35K6, MH35K7, MH35K8, MH35K9, MH35L0, MH35L1, MH35L2, MH35L3	Sodium	U	Blank Contamination	3
MH35K7, MH35K8, MH35L0, MH35L1, MH35L2	Beryllium	J+	Potentially false positive detection in ICS check sample	4
MH35H7, MH35J6, MH35J9, MH35K0, MH35K1, MH35K2, MH35K3, MH35K4, MH35K5, MH35K6, MH35K7, MH35L1, MH35L2	Potassium			
MH35J7, MH35J8, MH35K2, MH35K4, MH35K5, MH35K6, MH35K8, MH35K9, MH35L2, MH35L3	Thallium	J-	Potentially false negative detection in ICS check sample	
All Samples	Copper, Lead	J/UJ	Original & Duplicate both >5x the CRQL and RPD > 20%	6
	Antimony, Silver	J/UJ	MS <30%R, Post Digestion Spike %R ≥ 75%	7
	Barium, Copper	J+	MS >125%R, Post Digestion Spike not performed	
	Arsenic		MS > 125%R, Post Digestion Spike %R > 125%	
	Arsenic, Beryllium, Cadmium, Copper, Nickel, Sodium, Zinc	J/UJ	Serial Dilution %D > 10%	8

1. PRESERVATION AND HOLDING TIMES

All technical holding times and preservation criteria were met.

Yes___ No_X_

Comments: The samples were analyzed within 180 days for the ICP metals. According to the Sample Log-In Sheet and case narrative, the two sample coolers were each received at a temperature of 7°C, which is outside the recommended temperature range of 4 ± 2°C. The Sample Log-In Sheet further indicates that neither cooler contained a Cooler Temperature Indicator Bottle, as indicated on the form to be required. There is also no indication that SMO was contacted regarding this issue, neither is any documentation of the resolution or indication of how the cooler temperature was derived provided. The TR/COC also did not designate a sample for laboratory QC, but the documentation of the resolution of this issue is provided in the SDG.

When the sample preservation criteria are not met, but the sample analysis and extraction are within the technical holding times then professional judgment is used whether to qualify the data. No action was taken since the preservation exceedence was minimal and the extraction and holding times were well within the established parameters.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

2. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICV AND CCV)

The initial and continuing calibration verification standards (ICV and CCV, respectively) met SOW requirements.

Yes_X_ No____

Comments: None.

The calibration verification results were within 90-110% recovery for metals, 85-115% for cyanide, and 80-120% for mercury.

Yes_X_ No____

Comments: None.

The continuing calibration standards were run at 10% frequency or every two hours.

Yes_X_ No____

Comments: None.

3. BLANKS

The initial and continuing calibration blanks (ICB and CCB, respectively) met SOW requirements.

Yes_X_ No____

Comments: None.

The continuing calibration blanks were run at 10% frequency.

Yes_X_ No____

Comments: Continuing calibration blanks were run every 10 samples.

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.

Yes_X_ No____

Comments: None.

All analyzed blanks were free of contamination.

Yes_____ No_X_

Comments: The following table lists the blanks with contamination that resulted in sample qualification, elements present, affected samples, and data qualifiers:

Blank Contaminants

Blank ID	Contam-inant	CRQL (mg/Kg)	MDL (mg/Kg)	Concentration Found in Blank (mg/Kg)	Associated Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
PB	Antimony	1	0.0097	0.026	MH35H7	0.19	1.5 U
					MH35J7	1.2	1.3 U
					MH35K1	0.26	1.1 U
					MH35K2	0.25	1.1 U
					MH35K4	0.54	1.1 U
					MH35K5	0.99	1.1 U
					MH35K7	0.41	1.2 U
					MH35K8	0.59	1.3 U
					MH35K9	5.2	6.8 U
					MH35L1	0.71	1.7 U
					MH35L2	0.34	1.2 U
PB	Beryllium	0.5	0.0032	0.013	MH35H7	0.68	0.76 U
					MH35J6	0.19	0.60 U
					MH35J7	0.22	0.65 U
					MH35J8	0.16	0.78 U
					MH35J9	0.21	0.56 U
					MH35K0	0.32	0.55 U
					MH35K1	0.30	0.57 U
					MH35K2	0.20	0.55 U
					MH35K3	0.11	0.54 U
					MH35K4	0.35	0.54 U
					MH35K5	0.13	0.55 U
					MH35K6	0.19	0.55 U
					MH35K9	0.84	3.4 U
					MH35L3	0.11	3.0 U
PB	Cadmium	0.5	0.0027	0.005	MH35H7	0.25	0.76 U
					MH35J7	0.58	0.65 U
					MH35K2	0.55	0.55 U
					MH35K5	0.53	0.55 U
					MH35K9	1.7	3.4 U
					MH35L3	2.8	3.0 U
PB	Calcium	500	1.7	9.992	MH35J7	369	648 U
					MH35J8	405	775 U
					MH35J9	57.7	563 U
					MH35K0	259	551 U
					MH35K3	34.8	535 U
					MH35K5	48.6	554 U
					MH35K6	246	547 U
					MH35K9	2040	3380 U
					MH35L0	223	718 U
					MH35L3	279	2980 U
PB	Chromium	1	0.026	1.000	MH35K0	0.97	1.1 U
					MH35K3	0.86	1.1 U
					MH35K5	0.46	1.1 U
PB	Cobalt	1	0.0053	0.006	MH35J8	0.41	0.78 U
					MH35J9	0.19	0.56 U
					MH35K0	0.23	0.55 U
					MH35K3	0.35	0.54 U
					MH35K5	0.12	0.55 U
					MH35L3	1.4	3.0 U

Blank ID	Contam-inant	CRQL (mg/Kg)	MDL (mg/Kg)	Concentration Found in Blank (mg/Kg)	Associated Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
PB	Magnesium	500	1.2	2.971	MH35J7	477	648 U
					MH35J8	375	775 U
					MH35J9	45.9	563 U
					MH35K0	72.4	551 U
					MH35K3	38.2	535 U
					MH35K5	118	554 U
					MH35K9	2120	3380 U
					MH35L3	486	2980 U
PB	Nickel	0.5	0.013	0.500	MH35J8	0.36	0.78 U
					MH35J9	0.19	0.56 U
					MH35K0	0.17	0.55 U
					MH35K3	0.27	0.54 U
					MH35K5	0.14	0.55 U
					MH35L3	1.6	3.0 U
PB	Potassium	500	5.8	21.198	MH35J7	319	648 U
					MH35J8	418	775 U
					MH35K8	645	664 U
					MH35K9	1130	3380 U
					MH35L0	307	718 U
					MH35L3	773	2980 U
PB	Selenium	2.5	0.036	2.500	MH35H7	1.1	3.8 U
					MH35J6	2.7	3.0 U
					MH35J7	1.2	3.2 U
					MH35J8	1.4	3.9 U
					MH35J9	1.7	2.8 U
					MH35K0	1.8	2.8 U
					MH35K1	1.3	2.8 U
					MH35K2	0.60	2.8 U
					MH35K4	0.83	2.7 U
					MH35K5	0.90	2.8 U
					MH35K6	1.3	2.7 U
					MH35K7	0.52	3.0 U
					MH35K8	0.35	3.3 U
					MH35K9	2.0	17 U
					MH35L0	0.66	3.6 U
					MH35L1	0.59	4.3 U
					MH35L2	0.59	3.0 U
					MH35L3	4.2	15 U
PB	Silver	0.5	0.0023	0.004	MH35H7	0.41	0.76 U
PB	Sodium	500	0.73	12.529	MH35H7	80.1	761 U
					MH35J6	77.4	604 U
					MH35J7	38.8	648 U
					MH35J8	43.9	775 U
					MH35J9	22.3	563 U
					MH35K0	59.0	551 U
					MH35K1	37.7	569 U
					MH35K2	105	552 U
					MH35K3	53.9	535 U
					MH35K4	64.3	541 U
					MH35K5	53.1	554 U
					MH35K6	70.9	547 U

Blank ID	Contam-inant	CRQL (mg/Kg)	MDL (mg/Kg)	Concentration Found in Blank (mg/Kg)	Associated Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
PB	Sodium	500	0.73	12.529	MH35K7	59.2	597 U
					MH35K8	22.1	664 U
					MH35K9	139	3380 U
					MH35L0	23.0	718 U
					MH35L1	44.3	855 U
					MH35L2	16.7	600 U
					MH35L3	48.1	2980 U

4. INDUCTIVELY COUPLED PLASMA - INTERFERENCE CHECK SAMPLE (ICP-ICS)

The ICP interference check sample (ICS) was run at the beginning and end of each sample analysis run and every 20 analytical samples, but not prior to the ICV.

Yes_X_ No____

Comments: None.

Percent recovery of the analytes in the ICS solutions were within the range of 80-120% or the result was within ± the CRQL.

Yes_X_ No____

Comments: None.

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values or no interference was noted.

Yes_X_ No___ NA___

Comments: None.

Sample results contain potential false positives and false negatives.

Yes_X_ No____

Comments: The following table lists the elements with potential false positives or false negatives that resulted in sample qualification, affected samples, and data qualifiers:

ICP Interferences

Element	Concentration Found in ICSA Sample (ug/L)	Affected Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
Beryllium	0.36	MH35K7 MH35K8 MH35L0 MH35L1 MH35L2	>MDL	J+
Potassium	494	MH35H7 MH35J6 MH35J9 MH35K0 MH35K1 MH35K2 MH35K3 MH35K4 MH35K5 MH35K6 MH35K7 MH35L1 MH35L2		
Thallium	-0.05	MH35J7 MH35J8 MH35K2 MH35K4 MH35K5 MH35K6 MH35K8 MH35K9 MH35L2 MH35L3	0.23 0.10 0.36 0.38 0.43 0.37 0.41 0.31 0.44 0.19	J-

5. LABORATORY CONTROL SAMPLE

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No____

Comments: None.

All results were within control limits OF 70-130%.

Yes_X_ No____

Comments: None.

6. FORM 6 & 12 - DUPLICATE SAMPLE ANALYSIS

Duplicate sample analysis was performed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No___ NA___

Comments: None.

The RPDs were calculated correctly.

Yes_X_ No___ NA___

Comments: None.

For sample concentrations greater than five times the CRQL, RPDs were within ±20% (limits of ±35% apply for soil/sediments/tailings samples).

Yes___ No_X_ NA___

Comments: The following table lists the duplicate results outside control limits, samples affected, and data qualifiers:

Element	RPD	QC Limit	Samples Affected	Qualifiers
Copper	43%	20%	All samples	J / UJ
Lead	71%			

For sample concentrations less than five times the CRQL, duplicate analysis results were within the control window of CRQL (absolute difference < CRQL for soils).

Yes_X_ No___ NA___

Comments: None.

7. SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No___ NA___

Comments: None.

The percent recoveries (%Rs) were calculated correctly.

Yes_X_ No___ NA____

Comments: None.

Spike recoveries were within the range of 75-125% (an exception is granted where the sample concentration is four times the spike concentration).

Yes_X_ No_X_

Comments: The following table lists the spike recoveries outside control limits, post digestion spike recoveries, samples affected, and data qualifiers:

Element	Matrix Spike %R	Post-Digestion %R	Samples Affected	Qualifiers
Antimony	17%	85%	All samples	J/UJ
Arsenic	130%	944%		J+
Barium	128%	NA		
Copper	134%	NA		
Silver	11%	88%		J/UJ

NA – No Post digest spike analyzed

A post-digest spike was performed for those elements that did not meet the specified criteria (i.e., Pre-digestion/pre-distillation spike recovery falls outside of control limits and sample result is less than four times the spike amount added, exception: Ag, Hg).

Yes____ No_X_ NA____

Comments: For Arsenic and Copper the spike recoveries were outside of the Control Limits, but no Post-Digest Spike was performed.

8. ICP SERIAL DILUTION

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.

Yes_X_ No____

Comments: None.

The serial dilution was without interference problems as defined by the SOW.

Yes___ No_X__

Comments: The following serial dilution %Ds were greater than 10% and the original sample result was at least 50* the MDL:

Element	% Difference	Samples Affected	Qualifiers
Arsenic	21%	All samples	J
Beryllium	19%		
Cadmium	22%		
Copper	14%		
Nickel	15%		
Sodium	53%		
Zinc	29%		

9. REGIONAL QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC)

Regional QA/QC was conducted as initiated by the EPA Region 8.

Yes___ No__ NA _X

Comments: The SDG shows no indication of EPA Region 8 initiating any additional QA / QC.

10. FORM 10 - INTERELEMENT CORRECTION FACTORS FOR ICP

Interelement corrections for ICP were reported.

Yes_X_ No____

Comments: None.

11. FORM 12 - PREPARATION LOG

Information on the preparation of samples for analysis was reported on Form 12.

Yes_X_ No____

Comments: None.

12. FORM 13 - ANALYSIS RUN LOG

A Form 13 with the required information was filled out for each analysis run in the data package.

Yes_X_ No____

Comments: None.

13. Additional Comments or Problems/Resolutions Not Addressed Above

Page 1 of the Evidence Audit Checklist (EAC) indicates three airbills are associated with this SDG, however documentation is only provided for Airbill Number 3430, which documents the shipment of four packages. The laboratory only documented receipt of two coolers, so it is unclear as to what the other two packages were that were included on the airbill.

INORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
J+	-	The associated numerical value is an estimated quantity but the result may be biased high.
J-	-	The associated numerical value is an estimated quantity but the result may be biased low.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

ACRONYMS

AA	Atomic Absorption
Ag	Silver
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
CRA	CRQL standard required for AA
CRQL	Contract Required Quantitation Limit
CRI	CRQL standard required for ICP
CV	Cold Vapor
EPA	U.S. Environmental Protection Agency
GFAA	Graphite Furnace Atomic Absorption
Hg	Mercury
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma

ICS	Interference Check Sample
ICSA	Interference Check Sample (Solution A)
ICSAB	Interference Check Sample (Solution AB)
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
LRA	Linear Range Verification Analysis
MDL	Method Detection Limit
PDS	Post Digestion Spike
QC	Quality Control
RPD	Relative Percent Difference
RPM	Regional Project Manager
RSD	Percent Relative Standard Deviation
SA	Spike Added
SAS	Special Analytical Services
SDG	Sample Delivery Group
SOW	Statement of Work
SR	Sample Result
SSR	Spiked Sample Result

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35H7

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770001

% Solids: 65.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5550			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1500			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	30000			P
7439-92-1	Lead				
7439-95-4	Magnesium	2560			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	934.			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	80.1	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ 7K

761 UJ 7M
2/18/11

Color Before: ORANGE Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35H7

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770001

% Solids: 65.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.19	J	N	MS	1.5 U K
7440-38-2	Arsenic	11.7		NE	MS	J+ K
7440-39-3	Barium	190.		N	MS	J+ K
7440-41-7	Beryllium	0.68	J	E	MS	0.76 U J K
7440-43-9	Cadmium	0.25	J	E	MS	0.76 U J K
7440-70-2	Calcium					
7440-47-3	Chromium	4.8			MS	
7440-48-4	Cobalt	4.3		*	MS	~~J~~ ~~K~~ KSA 3/10/11
7440-50-8	Copper	34.5		*NE	MS	J+ K
7439-89-6	Iron					
7439-92-1	Lead	72.5		*	MS	J K
7439-95-4	Magnesium					
7439-96-5	Manganese	568.			MS	
7439-97-6	Mercury					
7440-02-0	Nickel	3.9		E	MS	J K
7440-09-7	Potassium					
7782-49-2	Selenium	1.1	J		MS	3.8 U K
7440-22-4	Silver	0.41	J	N	MS	0.76 U J K
7440-23-5	Sodium					
7440-28-0	Thallium	0.52	J		MS	
7440-62-2	Vanadium	45.2			MS	~~J~~ ~~K~~ KSA 3/10/11
7440-66-6	Zinc	99.0		*E	MS	J K
57-12-5	Cyanide					

2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: GRAY Clarity After: CLOUDY Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35J6

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770004

% Solids: 82.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8780			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1780			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	102000		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	5600			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	790.			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	77.4	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ TK

604 UJ TK 2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35J6

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770004

% Solids: 82.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	1.8		N	MS	J K
7440-38-2	Arsenic	9.1		NE	MS	J+ K
7440-39-3	Barium	105.		N	MS	J+ K
7440-41-7	Beryllium	0.19	J	E	MS	0.60 UJ K
7440-43-9	Cadmium	0.63		E	MS	J K
7440-70-2	Calcium					
7440-47-3	Chromium	4.9			MS	
7440-48-4	Cobalt	1.3		*	MS	
7440-50-8	Copper	195.		*NE	MS	J+ K
7439-89-6	Iron					
7439-92-1	Lead	6440		D*	MS	J K
7439-95-4	Magnesium					
7439-96-5	Manganese	452.			MS	
7439-97-6	Mercury					
7440-02-0	Nickel	2.3		E	MS	J K
7440-09-7	Potassium					
7782-49-2	Selenium	2.7	J		MS	3.0U K
7440-22-4	Silver	103.		DN	MS	J K
7440-23-5	Sodium					
7440-28-0	Thallium	0.50	J		MS	
7440-62-2	Vanadium	26.0			MS	~~J K~~ KSA 3/10/11
7440-66-6	Zinc	167.		*E	MS	J K 2/18/11
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLOUDY Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35J7

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770005

% Solids: 77.2 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1470			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	369.	J		P	648 U KSA 3/10/11
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	150000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	477.	J		P	648 U
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	319.	J		P	648 U
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	38.8	J	E	P	648 UJ 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: ORANGE Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35J7

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770005

% Solids: 77.2 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	1.2	J	N	MS	1.3 U M
7440-38-2	Arsenic	15.7		NE	MS	J+ M
7440-39-3	Barium	18.7		N	MS	J+ M
7440-41-7	Beryllium	0.22	J	E	MS	0.65 UJ M
7440-43-9	Cadmium	0.58	J	E	MS	0.65 UJ M
7440-70-2	Calcium					
7440-47-3	Chromium	1.8			MS	~~J M~~ KJA 3/10/11
7440-48-4	Cobalt	1.0		*	MS	
7440-50-8	Copper	104.		*NE	MS	J+ M
7439-89-6	Iron					
7439-92-1	Lead	1850		D*	MS	J M
7439-95-4	Magnesium					
7439-96-5	Manganese	630.			MS	
7439-97-6	Mercury					
7440-02-0	Nickel	1.3		E	MS	J M
7440-09-7	Potassium					
7782-49-2	Selenium	1.2	J		MS	3.2 U M
7440-22-4	Silver	10.4		N	MS	J M
7440-23-5	Sodium					
7440-28-0	Thallium	0.23	J		MS	~~0.5~~ J-M
7440-62-2	Vanadium	23.7			MS	~~J M~~ KJA 3/10/11
7440-66-6	Zinc	265.		*E	MS	J M
57-12-5	Cyanide					

2/18/11

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35J8

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770006

% Solids: 64.5 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2260			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	405.	J		P	775U
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	308000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	375.	J		P	775U
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	418.	J		P	775U
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	43.9	J	E	P	775UJ 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35J8

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770006

% Solids: 64.5 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	12.0		N	MS	J
7440-38-2	Arsenic	29.3		NE	MS	J+
7440-39-3	Barium	68.3		N	MS	J+
7440-41-7	Beryllium	0.16	J	E	MS	0.78 U J
7440-43-9	Cadmium	35.4		E	MS	J
7440-70-2	Calcium					
7440-47-3	Chromium	2.2			MS	
7440-48-4	Cobalt	0.41	J	*	MS	0.78 U
7440-50-8	Copper	286.		*NE	MS	J+
7439-89-6	Iron					
7439-92-1	Lead	5080		D*	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	136.			MS	
7439-97-6	Mercury					
7440-02-0	Nickel	0.36	J	E	MS	0.78 U J
7440-09-7	Potassium					
7782-49-2	Selenium	1.4	J		MS	3.9 U
7440-22-4	Silver	27.5		N	MS	J
7440-23-5	Sodium					
7440-28-0	Thallium	0.10	J		MS	J-
7440-62-2	Vanadium	49.7			MS	~~J~~ KoA 3/10/11
7440-66-6	Zinc	11300		D*E	MS	J
57-12-5	Cyanide					2/18/11

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35J9

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770007

% Solids: 88.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1130			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	57.7	J		P	563 U M
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	8170			P	
7439-92-1	Lead					
7439-95-4	Magnesium	45.9	J		P	563 U M
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	714.			P	J+ M
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	22.3	J	E	P	563 UJ M 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: YELLOW Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35J9

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770007

% Solids: 88.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony	13.5		N	MS
7440-38-2	Arsenic	34.9		NE	MS
7440-39-3	Barium	83.8		N	MS
7440-41-7	Beryllium	0.21	J	E	MS
7440-43-9	Cadmium	5.0		E	MS
7440-70-2	Calcium				
7440-47-3	Chromium	1.3			MS
7440-48-4	Cobalt	0.19	J	*	MS
7440-50-8	Copper	211.		*NE	MS
7439-89-6	Iron				
7439-92-1	Lead	3880		D*	MS
7439-95-4	Magnesium				
7439-96-5	Manganese	423.			MS
7439-97-6	Mercury				
7440-02-0	Nickel	0.19	J	E	MS
7440-09-7	Potassium				
7782-49-2	Selenium	1.7	J		MS
7440-22-4	Silver	34.6		N	MS
7440-23-5	Sodium				
7440-28-0	Thallium	0.61			MS
7440-62-2	Vanadium	7.8			MS
7440-66-6	Zinc	1400		D*E	MS
57-12-5	Cyanide				

J TM
J+ TM
J+ TM
0.56 UJ TM
J TM
0.56 U TM
J+ TM
J TM
0.56 UJ TM
2.8 U TM
J TM
~~J TM~~ KSA 3/10/11
J TM
2/18/11

Color Before: YELLOW Clarity Before: Texture: MEDIUM

Color After: WHITE Clarity After: CLOUDY Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35K0

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770008

% Solids: 90.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1450			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	259.	J		P	551 U ZH
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	16900			P	
7439-92-1	Lead					
7439-95-4	Magnesium	72.4	J		P	551 U ZH
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	1240			P	J+ ZH
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	59.0	J	E	P	551 UJ ZH 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35K0

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770008

% Solids: 90.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	11.7		N	MS	J
7440-38-2	Arsenic	38.6		NE	MS	J+
7440-39-3	Barium	97.2		N	MS	J+
7440-41-7	Beryllium	0.32	J	E	MS	0.55 UJ
7440-43-9	Cadmium	7.6		E	MS	J
7440-70-2	Calcium					
7440-47-3	Chromium	0.97	J		MS	1.1 U
7440-48-4	Cobalt	0.23	J	*	MS	0.55 U
7440-50-8	Copper	471.		*NE	MS	J+
7439-89-6	Iron					
7439-92-1	Lead	4920		D*	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	122.			MS	
7439-97-6	Mercury					
7440-02-0	Nickel	0.17	J	E	MS	0.55 UJ
7440-09-7	Potassium					
7782-49-2	Selenium	1.8	J		MS	2.8 U
7440-22-4	Silver	54.0		N	MS	J
7440-23-5	Sodium					
7440-28-0	Thallium	0.85			MS	
7440-62-2	Vanadium	12.0			MS	
7440-66-6	Zinc	2100		D*E	MS	J
57-12-5	Cyanide					

3/10/11

2/18/11

Color Before: YELLOW Clarity Before: . Texture: MEDIUM

Color After: BROWN Clarity After: CLOUDY Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K1

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770009

% Solids: 87.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2020			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	807.			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	21500			P
7439-92-1	Lead				
7439-95-4	Magnesium	950.			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1460			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	37.7	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ M

569 UJ M
2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K1

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770009

% Solids: 87.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony	0.26	J	N	MS
7440-38-2	Arsenic	90.2		NE	MS
7440-39-3	Barium	72.1		N	MS
7440-41-7	Beryllium	0.30	J	E	MS
7440-43-9	Cadmium	1.1		E	MS
7440-70-2	Calcium				
7440-47-3	Chromium	2.3			MS
7440-48-4	Cobalt	0.88		*	MS
7440-50-8	Copper	111.		*NE	MS
7439-89-6	Iron				
7439-92-1	Lead	4510		D*	MS
7439-95-4	Magnesium				
7439-96-5	Manganese	843.		D	MS
7439-97-6	Mercury				
7440-02-0	Nickel	0.74		E	MS
7440-09-7	Potassium				
7782-49-2	Selenium	1.3	J		MS
7440-22-4	Silver	8.4		N	MS
7440-23-5	Sodium				
7440-28-0	Thallium	1.2		D	MS
7440-62-2	Vanadium	17.5			MS
7440-66-6	Zinc	319.		*E	MS
57-12-5	Cyanide				

1.1 U M
J+ M
J+ M
0.57 U J M
J M
~~J M~~ KJA 3/10/11
J + M
J M
J M
2.8 U M
J M
~~J M~~ KJA 2/10/11
J M
2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: GREEN Clarity After: CLOUDY Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K2

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770010

% Solids: 90.5 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11200			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1360			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	36000			P
7439-92-1	Lead				
7439-95-4	Magnesium	11100			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	872.			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	105.	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ m

552 UJ m
2/18/11

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K2

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770010

% Solids: 90.5 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.25	J	N	MS	1.1 U
7440-38-2	Arsenic	96.8		NE	MS	J+
7440-39-3	Barium	34.9		N	MS	J+
7440-41-7	Beryllium	0.20	J	E	MS	0.55UJ
7440-43-9	Cadmium	0.55		E	MS	0.55UJ
7440-70-2	Calcium					
7440-47-3	Chromium	11.9			MS	
7440-48-4	Cobalt	5.5		*	MS	~~J~~ KJA 3/10/11
7440-50-8	Copper	47.1		*NE	MS	J+
7439-89-6	Iron					
7439-92-1	Lead	1030		D*	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	1620		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	5.3		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	0.60	J		MS	2.8U
7440-22-4	Silver	5.7		N	MS	J
7440-23-5	Sodium					
7440-28-0	Thallium	0.36	J	D	MS	J -
7440-62-2	Vanadium	62.1			MS	~~J~~ KJA 3/10/11
7440-66-6	Zinc	187.		*E	MS	J
57-12-5	Cyanide					

2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: WHITE Clarity After: CLOUDY Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K3

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770011

% Solids: 93.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	665.			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	34.8	J		P	535 U
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	22200			P	
7439-92-1	Lead					
7439-95-4	Magnesium	38.2	J		P	535 U
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	1200			P	J +
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	53.9	J	E	P	535 UJ 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: YELLOW Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K3

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770011

% Solids: 93.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	12.2		N	MS	J m
7440-38-2	Arsenic	55.2		NE	MS	J+ m
7440-39-3	Barium	81.3		N	MS	J+ m
7440-41-7	Beryllium	0.11	J	E	MS	0.54 U J m
7440-43-9	Cadmium	40.0		E	MS	J m
7440-70-2	Calcium					
7440-47-3	Chromium	0.86	J		MS	1.1 U m
7440-48-4	Cobalt	0.35	J	*	MS	0.54 U m
7440-50-8	Copper	4600		D*NE	MS	J+ m
7439-89-6	Iron					
7439-92-1	Lead	15500		D*	MS	J m
7439-95-4	Magnesium					
7439-96-5	Manganese	177.			MS	
7439-97-6	Mercury					
7440-02-0	Nickel	0.27	J	E	MS	0.54 U J m
7440-09-7	Potassium					
7782-49-2	Selenium	3.4			MS	
7440-22-4	Silver	113.		DN	MS	J KsA 3/10/11
7440-23-5	Sodium					
7440-28-0	Thallium	0.73			MS	
7440-62-2	Vanadium	7.1			MS	~~J m~~ KsA 3/10/11
7440-66-6	Zinc	10400		D*E	MS	J m 2/18/11
57-12-5	Cyanide					

Color Before: GREEN Clarity Before: _____ Texture: MEDIUM

Color After: GRAY Clarity After: CLOUDY Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K4

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770012

% Solids: 92.5 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13000			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	2030			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	25200			P
7439-92-1	Lead				
7439-95-4	Magnesium	12700			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	671.			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	64.3	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J + TM

541 UJ TM
2/18/11

Color Before: YELLOW Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K4

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770012

% Solids: 92.5 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.54	J	N	MS	1.1 U
7440-38-2	Arsenic	32.8		NE	MS	J+
7440-39-3	Barium	46.1		N	MS	J+
7440-41-7	Beryllium	0.35	J	E	MS	0.54 UJ
7440-43-9	Cadmium	0.70		E	MS	J
7440-70-2	Calcium					
7440-47-3	Chromium	10.0			MS	
7440-48-4	Cobalt	4.6		*	MS	~~J~~ KsA 3/10/11
7440-50-8	Copper	33.1		*NE	MS	J+
7439-89-6	Iron					
7439-92-1	Lead	2260		D*	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	3280		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	5.3		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	0.83	J		MS	2.7 U
7440-22-4	Silver	4.6		N	MS	J
7440-23-5	Sodium					
7440-28-0	Thallium	0.38	J		MS	J-
7440-62-2	Vanadium	60.8			MS	~~J~~ KsA 3/10/11
7440-66-6	Zinc	210.		*E	MS	J
57-12-5	Cyanide					

2/18/11

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: CLOUDY Artifacts:

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35K5

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770013

% Solids: 90.3 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	906.			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	48.6	J		P	554 U K
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	7700			P	
7439-92-1	Lead					
7439-95-4	Magnesium	118.	J		P	554 U K
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	961.			P	J+ K
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	53.1	J	E	P	554 U J Jml 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: GRAY Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K5

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770013

% Solids: 90.3 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.99	J	N	MS	1.1 U
7440-38-2	Arsenic	13.6		NE	MS	J+
7440-39-3	Barium	37.1		N	MS	J+
7440-41-7	Beryllium	0.13	J	E	MS	0.55 UJ
7440-43-9	Cadmium	0.53		E	MS	0.55 UJ
7440-70-2	Calcium					
7440-47-3	Chromium	0.46	J		MS	1.1 U
7440-48-4	Cobalt	0.12	J	*	MS	0.55 U
7440-50-8	Copper	63.1		*NE	MS	J+
7439-89-6	Iron					
7439-92-1	Lead	1050		D*	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	135.			MS	
7439-97-6	Mercury					
7440-02-0	Nickel	0.14	J	E	MS	0.55 UJ
7440-09-7	Potassium					
7782-49-2	Selenium	0.90	J		MS	2.8 U
7440-22-4	Silver	6.9		N	MS	J
7440-23-5	Sodium					
7440-28-0	Thallium	0.43	J		MS	J-
7440-62-2	Vanadium	4.9			MS	~~J~~ KA 3/10/11
7440-66-6	Zinc	140.		*E	MS	J
57-12-5	Cyanide					2/18/11

Color Before: GREEN Clarity Before: _____ Texture: MEDIUM

Color After: GREEN Clarity After: CLOUDY Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K6

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770014

% Solids: 91.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3270			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	246.	J		P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	46300		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	1920			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	769.			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	70.9	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

547 U

J+

547 UJ

2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K6

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770014

% Solids: 91.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	3.6		N	MS	J
7440-38-2	Arsenic	37.7		NE	MS	J+
7440-39-3	Barium	68.4		N	MS	J+
7440-41-7	Beryllium	0.19	J	E	MS	0.55 UJ
7440-43-9	Cadmium	9.0		E	MS	J
7440-70-2	Calcium					
7440-47-3	Chromium	2.7			MS	
7440-48-4	Cobalt	1.5		*	MS	~~J~~ KSA 3/10/11
7440-50-8	Copper	285.		*NE	MS	J+
7439-89-6	Iron					
7439-92-1	Lead	3170		D*	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	433.			MS	
7439-97-6	Mercury					
7440-02-0	Nickel	1.4		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	1.3	J		MS	2.7 UJ KSA 3/10/11
7440-22-4	Silver	22.9		N	MS	
7440-23-5	Sodium					
7440-28-0	Thallium	0.37	J		MS	J-
7440-62-2	Vanadium	15.4			MS	~~J~~ KSA 3/10/11
7440-66-6	Zinc	2580		D*E	MS	J
57-12-5	Cyanide					

2/18/11

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: CLOUDY Artifacts:

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35K7

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770015

% Solids: 83.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	19500			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1540			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	55900		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	9940			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1090			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	59.2	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ 2

597 UJ m
2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K7

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770015

% Solids: 83.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.41	J	N	MS	1.2 U N
7440-38-2	Arsenic	31.9		NE	MS	J+ N
7440-39-3	Barium	154.		N	MS	J+ N
7440-41-7	Beryllium	0.79		E	MS	J+ N
7440-43-9	Cadmium	3.7		E	MS	J N
7440-70-2	Calcium					
7440-47-3	Chromium	9.9			MS	
7440-48-4	Cobalt	21.4		*	MS	~~J~~ N KJA 3/10/11
7440-50-8	Copper	162.		*NE	MS	J+ N
7439-89-6	Iron					
7439-92-1	Lead	1070		D*	MS	J N
7439-95-4	Magnesium					
7439-96-5	Manganese	5570		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	9.5		E	MS	J N
7440-09-7	Potassium					
7782-49-2	Selenium	0.52	J		MS	3.0 U N
7440-22-4	Silver	2.7		N	MS	J N
7440-23-5	Sodium					
7440-28-0	Thallium	0.56	J		MS	
7440-62-2	Vanadium	47.5			MS	~~J~~ N KJA 3/10/11
7440-66-6	Zinc	498.		*E	MS	J N 2/18/11
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLOUDY Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K8

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770016

% Solids: 75.3 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13600			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1310			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	37200			P
7439-92-1	Lead				
7439-95-4	Magnesium	7200			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	645.			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	22.1	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

664 U

664 UJ
2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K8

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770016

% Solids: 75.3 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.59	J	N	MS	1.3 U
7440-38-2	Arsenic	25.8		NE	MS	J+
7440-39-3	Barium	74.3		N	MS	J+
7440-41-7	Beryllium	1.3		E	MS	J+
7440-43-9	Cadmium	6.0		E	MS	J
7440-70-2	Calcium					
7440-47-3	Chromium	7.1			MS	
7440-48-4	Cobalt	12.3		*	MS	~~J~~ KJA 3/10/11
7440-50-8	Copper	516.		*NE	MS	J+
7439-89-6	Iron					
7439-92-1	Lead	481.		*	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	4710		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	10.3		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	0.35	J		MS	3.3 U
7440-22-4	Silver	2.0		N	MS	J
7440-23-5	Sodium					
7440-28-0	Thallium	0.41	J		MS	J-
7440-62-2	Vanadium	32.5			MS	~~J~~ KJA 3/10/11
7440-66-6	Zinc	651.		D*E	MS	J
57-12-5	Cyanide					2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: TAN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K9

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770017

% Solids: 14.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	6720			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	2040	J		P	3380 U PK
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	141000			P	
7439-92-1	Lead					
7439-95-4	Magnesium	2120	J		P	3380 U PK
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	1130	J		P	3380 U PK
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	139.	J	E	P	3380 UJ PK 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35K9

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770017

% Solids: 14.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	5.2	J	N	MS	6.8 U
7440-38-2	Arsenic	42.6		NE	MS	J+
7440-39-3	Barium	119.		N	MS	J+
7440-41-7	Beryllium	0.84	J	E	MS	3.4 UJ
7440-43-9	Cadmium	1.7	J	E	MS	3.4 UJ
7440-70-2	Calcium					
7440-47-3	Chromium	19.7			MS	
7440-48-4	Cobalt	4.8		*	MS	~~J~~ KJA 3/10/11
7440-50-8	Copper	303.		*NE	MS	J+
7439-89-6	Iron					
7439-92-1	Lead	668.		*	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	1180			MS	
7439-97-6	Mercury					
7440-02-0	Nickel	5.9		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	2.0	J		MS	17 U
7440-22-4	Silver	27.1		N	MS	J
7440-23-5	Sodium					
7440-28-0	Thallium	0.31	J		MS	J-
7440-62-2	Vanadium	20.8			MS	~~J~~ KJA 3/10/11
7440-66-6	Zinc	350.		*E	MS	J 2/18/11
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: FINE

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35L0

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770018

% Solids: 69.6 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3020			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	223.	J		P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	5150			P
7439-92-1	Lead				
7439-95-4	Magnesium	1090			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	307.	J		P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	23.0	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

718 U

718 U

718 UJ 2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35L0

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770018

% Solids: 69.6 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	1.7		N	MS	J "
7440-38-2	Arsenic	45.6		NE	MS	J+ "
7440-39-3	Barium	264.		N	MS	J+ "
7440-41-7	Beryllium	1.3		E	MS	J+ "
7440-43-9	Cadmium	6.0		E	MS	J "
7440-70-2	Calcium					
7440-47-3	Chromium	6.2			MS	
7440-48-4	Cobalt	15.3		*	MS	~~J~~ " KA 3/10/11
7440-50-8	Copper	424.		*NE	MS	J+ "
7439-89-6	Iron					
7439-92-1	Lead	2030		D*	MS	J "
7439-95-4	Magnesium					
7439-96-5	Manganese	7960		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	7.7		E	MS	J "
7440-09-7	Potassium					
7782-49-2	Selenium	0.66	J		MS	3.6 U "
7440-22-4	Silver	11.8		N	MS	J "
7440-23-5	Sodium					
7440-28-0	Thallium	0.77			MS	
7440-62-2	Vanadium	27.8			MS	~~J~~ " KA 3/10/11
7440-66-6	Zinc	614.		*E	MS	J "
57-12-5	Cyanide					

2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: TAN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35L1

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770019

% Solids: 58.5 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11500			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1280			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	27100			P
7439-92-1	Lead				
7439-95-4	Magnesium	5670			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1210			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	44.3	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ n

~~88~~ 855 UJ n
2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM.

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35L1

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770019

% Solids: 58.5 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.71	J	N	MS	1.7U
7440-38-2	Arsenic	49.4		NE	MS	J+
7440-39-3	Barium	205.		N	MS	J+
7440-41-7	Beryllium	1.3		E	MS	J+
7440-43-9	Cadmium	7.0		E	MS	J
7440-70-2	Calcium					
7440-47-3	Chromium	8.2			MS	
7440-48-4	Cobalt	15.8		*	MS	J KJA 3/10/11
7440-50-8	Copper	294.		*NE	MS	J+
7439-89-6	Iron					
7439-92-1	Lead	754.		*	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	11500		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	7.8		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	0.59	J		MS	4.3U
7440-22-4	Silver	4.0		N	MS	J
7440-23-5	Sodium					
7440-28-0	Thallium	0.88			MS	J KJA 3/10/11
7440-62-2	Vanadium	38.0			MS	
7440-66-6	Zinc	899.		D*E	MS	J
57-12-5	Cyanide					

2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: TAN Clarity After: CLOUDY Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35L2

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770020

% Solids: 83.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15700			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1990			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	71200		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	11500			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	642.			P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	16.7	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ [illegible]

600 UJ [illegible]
2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35L2

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770020

% Solids: 83.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.34	J	N	MS	1.2 U
7440-38-2	Arsenic	31.5		NE	MS	J+
7440-39-3	Barium	94.2		N	MS	J+
7440-41-7	Beryllium	1.4		E	MS	J+
7440-43-9	Cadmium	10.4		E	MS	J
7440-70-2	Calcium					
7440-47-3	Chromium	8.0			MS	
7440-48-4	Cobalt	20.5		*	MS	J KJA 3/10/11
7440-50-8	Copper	1240		D*NE	MS	J+
7439-89-6	Iron					
7439-92-1	Lead	1480		D*	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	6600		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	11.7		E	MS	J
7440-09-7	Potassium					
7782-49-2	Selenium	0.59	J		MS	3.0 U
7440-22-4	Silver	1.2		N	MS	J
7440-23-5	Sodium					
7440-28-0	Thallium	0.44	J		MS	J-
7440-62-2	Vanadium	40.9			MS	J KJA 3/10/11
7440-66-6	Zinc	1500		D*E	MS	J
57-12-5	Cyanide					

2/18/11

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: CLEAR Artifacts:

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MH35L3

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770021

% Solids: 16.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	986.			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	279.	J		P	2980 U
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	273000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	486.	J		P	2980 U
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	773.	J		P	2980 U
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	48.1	J	E	P	2980 UJ 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH35L3

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH35H7

Matrix: Soil Lab Sample ID: 1030770021

% Solids: 16.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	23.3		N	MS	J
7440-38-2	Arsenic	969.		NE	MS	J+
7440-39-3	Barium	37.1		N	MS	J+
7440-41-7	Beryllium	0.11	J	E	MS	3.0 UJ
7440-43-9	Cadmium	2.8	J	E	MS	3.0 UJ
7440-70-2	Calcium					
7440-47-3	Chromium	11.3			MS	
7440-48-4	Cobalt	1.4	J	*	MS	3.0 U
7440-50-8	Copper	235.		*NE	MS	J+
7439-89-6	Iron					
7439-92-1	Lead	1100		*	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	304.			MS	
7439-97-6	Mercury					
7440-02-0	Nickel	1.6	J	E	MS	3.0 UJ
7440-09-7	Potassium					
7782-49-2	Selenium	4.2	J		MS	15 U
7440-22-4	Silver	13.2		N	MS	J
7440-23-5	Sodium					
7440-28-0	Thallium	0.19	J		MS	J-
7440-62-2	Vanadium	57.1			MS	J
7440-66-6	Zinc	524.		*E	MS	J
57-12-5	Cyanide					

KJA 3/10/11
2/18/11

Color Before: RED Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

REGION VIII
DATA VALIDATION REPORT
INORGANIC

Case/TDD No.	Site Name		Operable Unit
40755 / 1008-16	Upper Animas Mining District		
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
ALS Laboratory Group	EPW05026	MH36L0	

Review Assigned Date: December 15, 2010 Data Validator: Fred Luck
Review Completion Date: February 18, 2011 Report Reviewer: Lesley Boyd

Sample ID	Matrix	Analysis
MH36L0	Sediment	CLP –Metals
MH36L1		
MH36L2		
MH36L3		
MH36L4		
MH36L5	Mine Sediment	
MH36L6	Sediment	
MH36L7		
MH36L8		
MH36L9		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes _____ No ___X___

CLP Project Officer Attention Required? Yes _____ No ___X___ If yes, list the items that require attention:

INORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," January 2010.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-15% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, Case No. 40755, SDG No. MH36L0, consisted of ten sediment / mine sediment samples for metals by ICP-AES and ICP-MS (ISM01.2). The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH36L0, MH36L1, MH36L2, MH36L3, MH36L4, MH36L5, MH36L7, MH36L8, MH36L9	Antimony	U	Blank Contamination	3
MH36L9	Barium			
MH36L0, MH36L2, MH36L4, MH36L5, MH36L6, MH36L7, MH36L8, MH36L9	Beryllium			
MH36L0, MH36L5, MH36L8, MH36L9	Cadmium			
MH36L2, MH36L4, MH36L5, MH36L9	Calcium			
MH36L5, MH36L9	Chromium			
MH36L5, MH36L9	Cobalt			
MH36L5	Nickel			
MH36L0, MH36L1, MH36L2, MH36L3, MH36L4, MH36L5, MH36L6, MH36L7, MH36L8, MH36L9	Selenium			
MH36L5, MH36L9	Silver			
MH36L1, MH36L3	Beryllium	J+	Potentially false positive detection in ICS check sample	4
All Samples	Potassium			
MH36L0, MH36L1, MH36L2, MH36L3, MH36L4, MH36L6, MH36L7, MH36L8	Silver			
All Samples	Sodium			
	Thallium			

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
All Samples	Selenium, Thallium	J- /UJ	MS 30 - 74%R, Post Digestion Spike %R < 75%	7
	Antimony, Silver	J/UJ	MS <30%R, Post Digestion Spike %R ≥ 75%	
	Arsenic, Lead, Potassium, Sodium, Zinc	J	Serial Dilution %D > 10%	8

1. PRESERVATION AND HOLDING TIMES

All technical holding times and preservation criteria were met.

Yes___ No_X_

Comments: The samples were analyzed within 180 days for the ICP metals. According to the Sample Log-In Sheet and case narrative, the two sample coolers were each received at a temperature of 7°C, which is outside the recommended temperature range of 4 ± 2°C. The Sample Log-In Sheet further indicates that neither cooler contained a Cooler Temperature Indicator Bottle, as indicated on the form to be required. There is also no indication that SMO was contacted regarding this issue, neither is any documentation of the resolution or indication of how the cooler temperature was derived provided. The TR/COC also did not designate a sample for laboratory QC, but the documentation of the resolution of this issue is provided in the SDG.

When the sample preservation criteria are not met, but the sample analysis and extraction are within the technical holding times then professional judgment is used whether to qualify the data. No action was taken since the preservation exceedence was minimal and the extraction and holding times were well within the established parameters.

The field sampler had used CLP IDs in the incorrect format using the letter 'I' in accordance with the reported previous directions from Region 8, the SMO coordinator assigned new sample IDs to the affected samples and the laboratory was to note this issue in the SDG narrative, which is did. There is no apparent indication that the laboratory had any error involving sample confusion.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

2. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICV AND CCV)

The initial and continuing calibration verification standards (ICV and CCV, respectively) met SOW requirements.

Yes_X_ No____

Comments: None.

The calibration verification results were within 90-110% recovery for metals, 85-115% for cyanide, and 80-120% for mercury.

Yes_X_ No____

Comments: None.

The continuing calibration standards were run at 10% frequency or every two hours.

Yes_X_ No____

Comments: None.

3. BLANKS

The initial and continuing calibration blanks (ICB and CCB, respectively) met SOW requirements.

Yes_X_ No____

Comments: For the ICP-AES analyses, the ICB was rerun.

The continuing calibration blanks were run at 10% frequency.

Yes_X_ No____

Comments: Continuing calibration blanks were run every 10 samples.

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.

Yes_X_ No____

Comments: None.

All analyzed blanks were free of contamination.

Yes____ No_X_

Comments: The following table lists the blanks with contamination that resulted in sample qualification, elements present, affected samples, and data qualifiers:

Blank Contaminants

Blank ID	Contam-inant	CRQL	MDL (mg/Kg)	Concentration Found in Blank (mg/Kg)	Associated Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
PB	Antimony	1	0.0097	0.030	MH36L0	0.53	1.3 U
					MH36L1	0.45	1.3 U
					MH36L2	0.86	1.6 U
					MH36L3	0.45	1.4 U
					MH36L4	1.7	2.0 U
					MH36L5	0.31	3.2 U
					MH36L7	0.45	1.3 U
					MH36L8	0.19	1.3 U
					MH36L9	0.44	5.0 U
PB	Barium	5	0.044	5.0	MH36L9	21.4	24.9 U
PB	Beryllium	0.5	0.0032	0.011	MH36L0	0.38	0.63 U
					MH36L2	0.30	0.80 U
					MH36L4	0.34	1.0 U
					MH36L5	0.79	1.6 U
					MH36L6	0.46	0.95 U
					MH36L7	0.45	0.65 U
					MH36L8	0.53	0.63 U
					MH36L9	1.4	2.5 U
PB	Cadmium	0.5	0.0027	0.50	MH36L0	0.73	0.63 U
					MH36L5	0.11	1.6 U
					MH36L8	0.42	0.63 U
					MH36L9	1.2	2.5 U
PB	Calcium	500	1.7	2.587	MH36L2	592	804 U
					MH36L4	851	1030 U
					MH36L5	1540	1580 U
					MH36L9	2310	2490 U
PB	Chromium	1	0.026	1.00	MH36L5	2.6	3.2 U
					MH36L9	2.8	5.0 U
PB	Cobalt	1	0.0053	0.024	MH36L5	1.5	1.6 U
					MH36L9	1.5	2.5 U
PB	Nickel	0.5	0.013	0.500	MH36L5	1.2	1.6 U
PB	Selenium	2.5	0.036	2.500	MH36L0	0.55	3.1 U
					MH36L1	0.32	3.3 U
					MH36L2	0.86	4.0 U
					MH36L3	0.70	3.5 U
					MH36L4	1.2	5.1 U
					MH36L5	0.16	7.9 U
					MH36L6	1.4	4.8 U
					MH36L7	1.2	3.3 U
					MH36L8	0.61	3.1 U
					MH36L9	12.4	12.4 U
PB	Silver	0.5	0.0023	0.006	MH36L5	0.31	1.6 U
					MH36L9	0.71	2.5 U

4. INDUCTIVELY COUPLED PLASMA - INTERFERENCE CHECK SAMPLE (ICP-ICS)

The ICP interference check sample (ICS) was run at the beginning and end of each sample analysis run and every 20 analytical samples, but not prior to the ICV.

Yes_X_ No____

Comments: None.

Percent recovery of the analytes in the ICS solutions were within the range of 80-120% or the result was within ± the CRQL.

Yes___ No_X_

Comments: For Potassium and Sodium, the ICP-AES Interference Check Sample Results exceeded the True Values by approximately 1.8 to 2.0 times the CRQL, this analysis was repeated with similar results. Results for these analytes that are ≥ MDL have been qualified as estimated high (J+).

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values or no interference was noted.

Yes_X_ No___ NA___

Comments: None.

Sample results contain potential false positives and false negatives.

Yes_X_ No____

Comments: The following table lists the elements with potential false positives or false negatives that resulted in sample qualification, affected samples, and data qualifiers:

ICP Interferences

Element	Concentration Found in ICSA Sample (ug/L)	Affected Samples	Concentration Found in Sample (mg/Kg)	Qualifier/ Adjustment
Beryllium	0.39	MH36L1 MH36L3	>MDL	J+
Potassium	1020	All samples		
Silver	0.027	MH36L0 MH36L1 MH36L2 MH36L3 MH36L4 MH36L6 MH36L7 MH36L8		
Sodium	975	All samples		
Thallium	0.049	All samples		

5. LABORATORY CONTROL SAMPLE

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No____

Comments: None.

All results were within control limits OF 70-130%.

Yes_X_ No____

Comments: None.

6. FORM 6 & 12 - DUPLICATE SAMPLE ANALYSIS

Duplicate sample analysis was performed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No___ NA____

Comments: None.

The RPDs were calculated correctly.

Yes_X_ No___ NA____

Comments: None.

For sample concentrations greater than five times the CRQL, RPDs were within 20% (limits of 35% apply for soil/sediments/tailings samples).

Yes_X_ No___ NA____

Comments: None.

For sample concentrations less than five times the CRQL, duplicate analysis results were within the control window of CRQL (absolute difference < CRQL for soils).

Yes_X_ No___ NA____

Comments: None.

7. SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No___ NA____

Comments: None.

The percent recoveries (%Rs) were calculated correctly.

Yes_X_ No___ NA____

Comments: None
Spike recoveries were within the range of 75-125% (an exception is granted where the sample concentration is four times the spike concentration).

Yes___ No_X_

Comments: The following table lists the spike recoveries outside control limits, post digestion spike recoveries, samples affected, and data qualifiers:

Element	Matrix Spike %R	Post-Digestion %R	Samples Affected	Qualifiers
Antimony	20%	85%	All samples	J/UJ
Selenium	55%	67%		J-/UJ
Silver	-11%	86%		J/UJ
Thallium	74%	69%		J-/UJ

A post-digest spike was performed for those elements that did not meet the specified criteria (i.e., Pre-digestion/pre-distillation spike recovery falls outside of control limits and sample result is less than four times the spike amount added, exception: Ag, Hg).

Yes_X_ No__ NA____

Comments: None.

8. ICP SERIAL DILUTION

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.

Yes_X_ No____

Comments: None.

The serial dilution was without interference problems as defined by the SOW.

Yes___ No_X_

Comments: The following serial dilution %Ds were greater than 10% and the original sample result was at least 50* the MDL:

Element	% Difference	Samples Affected	Qualifiers
Arsenic	18%	All samples	J
Lead	34%		
Potassium	19%		
Sodium	27%		
Zinc	24%		

9. REGIONAL QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC)

Regional QA/QC was conducted as initiated by the EPA Region 8.

Yes__ No__ NA _X

Comments: The SDG shows no indication of EPA Region 8 initiating any additional QA / QC.

10. FORM 10 - INTERELEMENT CORRECTION FACTORS FOR ICP

Interelement corrections for ICP were reported.

Yes_X_ No____

Comments: None.

11. FORM 12 - PREPARATION LOG

Information on the preparation of samples for analysis was reported on Form 12.

Yes_X_ No____

Comments: None.

12. FORM 13 - ANALYSIS RUN LOG

A Form 13 with the required information was filled out for each analysis run in the data package.

Yes_X_ No____

Comments: None.

13. Additional Comments or Problems/Resolutions Not Addressed Above

Page 1 of the Evidence Audit Checklist (EAC) indicates three airbills are associated with this SDG, however documentation is only provided for Airbill Number 3430, which documents the shipment of four packages. The laboratory only documented receipt of two coolers, so it is unclear as to what the other two packages were that were included on the airbill.

INORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
J+	-	The associated numerical value is an estimated quantity but the result may be biased high.
J-	-	The associated numerical value is an estimated quantity but the result may be biased low.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

ACRONYMS

AA	Atomic Absorption
Ag	Silver
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
CRA	CRQL standard required for AA
CRQL	Contract Required Quantitation Limit
CRI	CRQL standard required for ICP
CV	Cold Vapor
EPA	U.S. Environmental Protection Agency
GFAA	Graphite Furnace Atomic Absorption
Hg	Mercury
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICS	Interference Check Sample
ICSA	Interference Check Sample (Solution A)
ICSAB	Interference Check Sample (Solution AB)
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
LRA	Linear Range Verification Analysis
MDL	Method Detection Limit
PDS	Post Digestion Spike
QC	Quality Control
RPD	Relative Percent Difference
RPM	Regional Project Manager
RSD	Percent Relative Standard Deviation
SA	Spike Added
SAS	Special Analytical Services
SDG	Sample Delivery Group
SOW	Statement of Work
SR	Sample Result
SSR	Spiked Sample Result

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L0

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771001

% Solids: 79.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8100			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1740			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	38100			P
7439-92-1	Lead				
7439-95-4	Magnesium	5830			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	440.	J	E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	30.8	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ [illegible]

J+ [illegible]
2/18/11

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L0

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771001

% Solids: 79.4 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.53	J	N	MS	1.3 U J
7440-38-2	Arsenic	17.7		E	MS	J
7440-39-3	Barium	121.		*	MS	~~J~~ KA 3/10/11
7440-41-7	Beryllium	0.38	J	E	MS	0.63 U
7440-43-9	Cadmium	0.48	J		MS	0.63 U
7440-70-2	Calcium					
7440-47-3	Chromium	6.9			MS	
7440-48-4	Cobalt	13.2		*	MS	~~J~~ KA 3/10/11
7440-50-8	Copper	63.6			MS	
7439-89-6	Iron					
7439-92-1	Lead	379.		E	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	1420		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	6.3			MS	
7440-09-7	Potassium					
7782-49-2	Selenium	0.55	J	N	MS	3.1 U J
7440-22-4	Silver	1.3		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.30	J	N	MS	J+
7440-62-2	Vanadium	46.3			MS	
7440-66-6	Zinc	184.		E	MS	J
57-12-5	Cyanide					

2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L1

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771002

% Solids: 74.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13100			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	2020			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	35000			P
7439-92-1	Lead				
7439-95-4	Magnesium	8970			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	501.	J	E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	21.9	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ M

J+ M
2/18/11

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L1

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771002

% Solids: 74.7 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.45	J	N	MS	1.3 UJ
7440-38-2	Arsenic	28.1		E	MS	J
7440-39-3	Barium	90.8		*	MS	~~J~~ KA 3/10/11
7440-41-7	Beryllium	0.73		E	MS	J+
7440-43-9	Cadmium	2.0			MS	
7440-70-2	Calcium					
7440-47-3	Chromium	9.0			MS	
7440-48-4	Cobalt	11.2		*	MS	~~J~~ KA 3/10/11
7440-50-8	Copper	193.			MS	
7439-89-6	Iron					
7439-92-1	Lead	543.		E	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	3650		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	5.2			MS	
7440-09-7	Potassium					
7782-49-2	Selenium	0.32	J	N	MS	3.3 UJ
7440-22-4	Silver	1.7		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.40	J	N	MS	J+
7440-62-2	Vanadium	32.2			MS	
7440-66-6	Zinc	332.		E	MS	J
57-12-5	Cyanide					

2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L2

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771003

% Solids: 62.2 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5960			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	592.	J		P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	116000		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	3260			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	842.		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	65.3	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

804 U M

J+ M

J+ M
2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L2

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771003

% Solids: 62.2 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.86	J	N	MS	1.6 UJ M
7440-38-2	Arsenic	62.5		E	MS	J M
7440-39-3	Barium	121.		*	MS	~~J M~~ KJA 3/10/11
7440-41-7	Beryllium	0.30	J	E	MS	0.8 U M
7440-43-9	Cadmium	1.4			MS	
7440-70-2	Calcium					
7440-47-3	Chromium	8.5			MS	
7440-48-4	Cobalt	5.4		*	MS	~~J M~~ KJA 3/10/11
7440-50-8	Copper	177.			MS	
7439-89-6	Iron					
7439-92-1	Lead	546.		E	MS	J M
7439-95-4	Magnesium					
7439-96-5	Manganese	1130		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	4.5			MS	
7440-09-7	Potassium					
7782-49-2	Selenium	0.86	J	N	MS	4.0 UJ M
7440-22-4	Silver	5.1		N	MS	J+ M
7440-23-5	Sodium					
7440-28-0	Thallium	0.30	J	N	MS	J+ M
7440-62-2	Vanadium	42.6			MS	
7440-66-6	Zinc	444.		E	MS	J M
57-12-5	Cyanide					2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L3

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771004

% Solids: 70.9 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12200			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1110			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	31900			P
7439-92-1	Lead				
7439-95-4	Magnesium	5340			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	648.		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	29.5	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ M

J+ M 2/18/11

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L3

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: Mod. Ref. No.: SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771004

% Solids: 70.9 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.45	J	N	MS	1.4 UJ
7440-38-2	Arsenic	36.8		E	MS	J
7440-39-3	Barium	147.		*	MS	~~J~~ KA 3/10/11
7440-41-7	Beryllium	1.4		E	MS	J+
7440-43-9	Cadmium	7.4			MS	
7440-70-2	Calcium					
7440-47-3	Chromium	9.6			MS	
7440-48-4	Cobalt	12.9		*	MS	~~J~~ KA 3/10/11
7440-50-8	Copper	546.			MS	
7439-89-6	Iron					
7439-92-1	Lead	779.		DE	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	5130		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	6.9			MS	
7440-09-7	Potassium					
7782-49-2	Selenium	0.70	J	N	MS	3.5 UJ
7440-22-4	Silver	2.8		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.40	J	N	MS	J+
7440-62-2	Vanadium	33.2			MS	
7440-66-6	Zinc	1990		DE	MS	J
57-12-5	Cyanide					2/18/11

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L4

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771005

% Solids: 48.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	8140			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	851.	J		P	1030 U TK
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	154000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	4670			P	
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	1120		E	P	J+ TK
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	98.1	J	E	P	J+ TK 2/18/11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L4

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: Mod. Ref. No.: SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771005

% Solids: 48.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	1.7	J	N	MS	2.0 UJ TK
7440-38-2	Arsenic	86.3		E	MS	J TK
7440-39-3	Barium	168.		*	MS	~~J TK~~ KA 3/10/11
7440-41-7	Beryllium	0.34	J	E	MS	1.0 U TK
7440-43-9	Cadmium	1.2			MS	
7440-70-2	Calcium					
7440-47-3	Chromium	9.8			MS	
7440-48-4	Cobalt	6.1		*	MS	~~J TK~~ KA 3/10/11
7440-50-8	Copper	251.			MS	
7439-89-6	Iron					
7439-92-1	Lead	656.		E	MS	J TK
7439-95-4	Magnesium					
7439-96-5	Manganese	1400		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	4.8			MS	
7440-09-7	Potassium					
7782-49-2	Selenium	1.2	J	N	MS	5.1 UJ TK
7440-22-4	Silver	7.5		N	MS	J+ TK
7440-23-5	Sodium					
7440-28-0	Thallium	0.31	J	N	MS	J+ TK
7440-62-2	Vanadium	44.3			MS	
7440-66-6	Zinc	464.		E	MS	J TK 2/18/11
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: CLEAR Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L5

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771008

% Solids: 31.6 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5480			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1540			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	359000		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	644.	J		P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	146.	J	E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	31.2	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

1580 U TM

J+ TM

J+ TM 2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L5

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771008

% Solids: 31.6 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.31	J	N	MS	3.2 U J
7440-38-2	Arsenic	19.1		E	MS	J
7440-39-3	Barium	17.4		*	MS	~~J~~
7440-41-7	Beryllium	0.79	J	E	MS	1.6 U
7440-43-9	Cadmium	0.23	J		MS	1.6 U
7440-70-2	Calcium					
7440-47-3	Chromium	2.6	J		MS	3.2 U
7440-48-4	Cobalt	1.5	J	*	MS	1.6 U J
7440-50-8	Copper	20.2			MS	
7439-89-6	Iron					
7439-92-1	Lead	115.		E	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	280.			MS	
7439-97-6	Mercury					
7440-02-0	Nickel	1.2	J		MS	1.6 U
7440-09-7	Potassium					
7782-49-2	Selenium	0.16	J	N	MS	7.9 U J
7440-22-4	Silver	0.31	J	N	MS	1.6 U J
7440-23-5	Sodium					
7440-28-0	Thallium	1.6	U	N	MS	J +
7440-62-2	Vanadium	45.9			MS	
7440-66-6	Zinc	282.		E	MS	J
57-12-5	Cyanide					

2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: FINE

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L6

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771009

% Solids: 52.6 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7030			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1420			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	114000		D	P
7439-92-1	Lead				
7439-95-4	Magnesium	3810			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1560		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	118.	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ TK

J+ TK 2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L6

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771009

% Solids: 52.6 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	2.8		N	MS	J
7440-38-2	Arsenic	50.2		E	MS	J
7440-39-3	Barium	146.		*	MS	J
7440-41-7	Beryllium	0.46	J	E	MS	0.95 U
7440-43-9	Cadmium	2.9			MS	
7440-70-2	Calcium					
7440-47-3	Chromium	8.4			MS	
7440-48-4	Cobalt	3.9		*	MS	J
7440-50-8	Copper	279.			MS	
7439-89-6	Iron					
7439-92-1	Lead	5720		DE	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	1340		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	3.8			MS	
7440-09-7	Potassium					
7782-49-2	Selenium	1.4	J	N	MS	4.8 UJ
7440-22-4	Silver	12.1		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.60	J	N	MS	J+
7440-62-2	Vanadium	47.7			MS	
7440-66-6	Zinc	815.		E	MS	J
57-12-5	Cyanide					

KJA 3/10/11

KJA 3/10/11

2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: FINE

Color After: WHITE Clarity After: CLOUDY Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L7

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771010

% Solids: 76.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9570			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1530			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	57600			P
7439-92-1	Lead				
7439-95-4	Magnesium	6070			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	751.		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	62.3	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ TK

J+ TK 2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L7

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771010

% Solids: 76.8 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.45	J	N	MS	1.3 U J
7440-38-2	Arsenic	20.3		E	MS	J
7440-39-3	Barium	97.3		*	MS	J KsA 3/10/11
7440-41-7	Beryllium	0.45	J	E	MS	0.65 U
7440-43-9	Cadmium	0.90			MS	
7440-70-2	Calcium					
7440-47-3	Chromium	7.0			MS	
7440-48-4	Cobalt	11.8		*	MS	J KsA 3/10/11
7440-50-8	Copper	86.5			MS	
7439-89-6	Iron					
7439-92-1	Lead	726.		DE	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	1530		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	4.4			MS	
7440-09-7	Potassium					
7782-49-2	Selenium	1.2	J	N	MS	3.3 UJ
7440-22-4	Silver	1.7		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.39	J	N	MS	J+ KsA 3/10/11
7440-62-2	Vanadium	47.3			MS	
7440-66-6	Zinc	261.		E	MS	J 2/18/11
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: CLOUDY Artifacts:

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L8

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771011

% Solids: 79.5 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10900			P
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium	1890			P
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron	37100			P
7439-92-1	Lead				
7439-95-4	Magnesium	5380			P
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium	1000		E	P
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	99.3	J	E	P
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
57-12-5	Cyanide				

J+ TK

J+ TK 2/18/11

Color Before: ORANGE Clarity Before: _____ Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L8

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771011

% Solids: 79.5 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.19	J	N	MS	1.3 U J
7440-38-2	Arsenic	17.3		E	MS	J
7440-39-3	Barium	102.		*	MS	J KJA 3/10/11
7440-41-7	Beryllium	0.53	J	E	MS	0.63 U
7440-43-9	Cadmium	0.12	J		MS	0.63 U
7440-70-2	Calcium					
7440-47-3	Chromium	8.0			MS	
7440-48-4	Cobalt	10.4		*	MS	J KJA 3/10/11
7440-50-8	Copper	73.1			MS	
7439-89-6	Iron					
7439-92-1	Lead	532.		E	MS	J
7439-95-4	Magnesium					
7439-96-5	Manganese	675.		D	MS	
7439-97-6	Mercury					
7440-02-0	Nickel	7.1			MS	
7440-09-7	Potassium					
7782-49-2	Selenium	0.61	J	N	MS	3.1 UJ
7440-22-4	Silver	1.3		N	MS	J+
7440-23-5	Sodium					
7440-28-0	Thallium	0.35	J	N	MS	J+
7440-62-2	Vanadium	49.0			MS	
7440-66-6	Zinc	73.8		E	MS	J 2/18/11
57-12-5	Cyanide					

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: GRAY Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L9

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771012

% Solids: 20.1 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	13400			P	
7440-36-0	Antimony					
7440-38-2	Arsenic					
7440-39-3	Barium					
7440-41-7	Beryllium					
7440-43-9	Cadmium					
7440-70-2	Calcium	2310	J		P	2490 U 11
7440-47-3	Chromium					
7440-48-4	Cobalt					
7440-50-8	Copper					
7439-89-6	Iron	238000		D	P	
7439-92-1	Lead					
7439-95-4	Magnesium	913.	J		P	
7439-96-5	Manganese					
7439-97-6	Mercury					
7440-02-0	Nickel					
7440-09-7	Potassium	231.	J	E	P	J+ 11
7782-49-2	Selenium					
7440-22-4	Silver					
7440-23-5	Sodium	44.5	J	E	P	J+ 11
7440-28-0	Thallium					
7440-62-2	Vanadium					
7440-66-6	Zinc					KSA 3/10/11
57-12-5	Cyanide					

Color Before: ORANGE Clarity Before: _____ Texture: FINE

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

E: The reported value is estimated due to the presence of interference.

USEPA - CLP
1B-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH36L9

Lab Name: ALS Laboratory Group Contract: EPW09036

Lab Code: DATAC Case No.: 40755 Mod. Ref. No.: _____ SDG No.: MH36L0

Matrix: Soil Lab Sample ID: 1030771012

% Solids: 20.1 Date Received: 11/03/2010

Concentration Units (ug/L, ug or mg/kg dry weight): mg/kg

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum					
7440-36-0	Antimony	0.44	J	N	MS	5.0 UJ n
7440-38-2	Arsenic	17.7		E	MS	J n
7440-39-3	Barium	21.4	J	*	MS	~~25.0 U~~ 24.9 UJ n
7440-41-7	Beryllium	1.4	J	E	MS	2.5 U n
7440-43-9	Cadmium	0.35	J		MS	2.5 U n
7440-70-2	Calcium					
7440-47-3	Chromium	2.8	J		MS	5.0 U n
7440-48-4	Cobalt	1.5	J	*	MS	2.5 U J n
7440-50-8	Copper	28.1			MS	
7439-89-6	Iron					
7439-92-1	Lead	217.		E	MS	J n
7439-95-4	Magnesium					
7439-96-5	Manganese	336.			MS	
7439-97-6	Mercury					
7440-02-0	Nickel	1.3	J		MS	
7440-09-7	Potassium					
7782-49-2	Selenium	12.4	U	N	MS	12.4 UJ n
7440-22-4	Silver	0.71	J	N	MS	2.5 UJ n
7440-23-5	Sodium					
7440-28-0	Thallium	2.5	U	N	MS	UJ KJA 3/10/11
7440-62-2	Vanadium	41.8			MS	
7440-66-6	Zinc	269.		E	MS	J n KJA 3/10/11
57-12-5	Cyanide					

Color Before: ORANGE Clarity Before: _____ Texture: FINE

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:
E: The reported value is estimated due to the presence of interference.

REGION VIII
DATA VALIDATION REPORT
INORGANIC

Case No. / TDD No.	Site Name		Operable Unit
C101001 / 1008-13	Upper Animas Mining District		
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	**Contract No.**	**TDF No.**	**Laboratory DPO/Region**
ESAT – TechLaw, Inc.		DG-216 surface water and mine discharge	

Review Assigned Date March 28, 2011
Review Completion Date March 31, 2011

Data Validator Diane Short & Assoc. Review
Report Reviewer Kent Alexander

Station	Client ID	Lab ID	Sample Type
Method 200.7 ICP, 200.8 ICPMS Total and Dissolved (D)			
A68	UASW003	C101101-01	Surface Water
A72	UASW029	C101101-02	Surface Water
CC01F	UASW030	C101101-03	Surface Water
CC01S	UASW024	C101101-04	Surface Water
CC01T	UASW023	C101101-05	Surface Water
CC02A	UASW022	C101101-06	Surface Water
CC02D	UAAD004	C101101-07	Mine Discharge (D)
CC02D	UAAD004	C101101-08	Mine Discharge
CC03C	UAAD003	C101101-09	Mine Discharge (D)
CC03C	UAAD003	C101101-10	Mine Discharge
CC03D	UASW015	C101101-11	Surface Water
CC06	UAAD002	C101101-12	Mine Discharge (D)
CC06	UAAD002	C101101-13	Mine Discharge
CC17	UASW005	C101101-14	Surface Water
CC17 DUP	UASW098	C101101-15	Surface Water
CC18	UASW007	C101101-16	Surface Water
CC19	UAAD001	C101101-17	Mine Discharge (D)
CC19	UAAD001	C101101-18	Mine Discharge

Station	Client ID	Lab ID	Sample Type
CC48	UASW035	C101101-19	Surface Water
CC48 DUP	UASW097	C101101-20	Surface Water
CCOPP-12	UASW016	C101101-21	Surface Water
M34	UASW033	C101101-22	Surface Water
UASW001	UASW001	C101101-23	Surface Water
UASW002	UASW002	C101101-24	Surface Water
UASW004	UASW004	C101101-25	Surface Water
UASW006	UASW006	C101101-26	Surface Water
UASW008	UASW008	C101101-27	Surface Water
UASW009	UASW009	C101101-28	Surface Water
UASW010	UASW010	C101101-29	Surface Water
UASW011	UASW011	C101101-30	Surface Water
UASW012	UASW012	C101101-31	Surface Water
UASW013	UASW013	C101101-32	Surface Water
UASW014	UASW014	C101101-33	Surface Water
UASW017	UASW017	C101101-34	Surface Water
UASW018	UASW018	C101101-35	Surface Water
UASW019	UASW019	C101101-36	Surface Water
UASW019 DUP	UASW099	C101101-37	Surface Water
UASW020	UASW020	C101101-38	Surface Water
UASW021	UASW021	C101101-39	Surface Water
UASW032	UASW032	C101101-40	Surface Water
UASW034	UASW034	C101101-41	Surface Water
UASW036	UASW036	C101101-42	Surface Water
UASW037	UASW037	C101101-43	Surface Water
UASW039	UASW039	C101101-44	Surface Water
UASW040	UASW040	C101101-45	Surface Water
UASW041	UASW041	C101101-46	Surface Water
UASW042	UASW042	C101101-47	Surface Water
UASW043	UASW043	C101101-48	Surface Water
UASW044	UASW044	C101101-49	Surface Water
UASW045	UASW045	C101101-50	Surface Water
UASW046	UASW046	C101101-51	Surface Water
UASW047	UASW047	C101101-52	Surface Water
UASW049	UASW049	C101101-53	Surface Water
UASW050	UASW050	C101101-54	Surface Water
UASW054	UASW054	C101101-55	Surface Water
UASW056	UASW056	C101101-56	Surface Water
UASW058	UASW058	C101101-57	Surface Water
UASW059	UASW059	C101101-58	Surface Water

Station	Client ID	Lab ID	Sample Type
Analysis for Hardness SM 2340B			
CC02D	UAAD004	C101101-07	Mine Discharge
CC03C	UAAD003	C101101-09	Mine Discharge
CC06	UAAD002	C101101-12	Mine Discharge
CC19	UAAD001	C101101-17	Mine Discharge

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes _____ No ___X___

CLP Project Officer Attention Required? Yes _____ No ___X___ If yes, list the items that require attention:

INORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," January 2010.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified representing all data packages received for this review. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, TDF No. DG-216, consisted of 54 total surface water and mine discharge and 4 dissolved mine discharge samples for Total Recoverable Metals and Dissolved Metals by Methods 200.7 ICP and 200.8 by ICPMS. The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Station ID	Client ID	Lab ID	Analyte	Result ug/L	EPA Qualifier	DSA Qualifier
A68	UASW003	C101101-01	Silver	0.843	U	UCB.6
A68	UASW003	C101101-01	Molybdenum	3.63	U	UCB1.35
CC01S	UASW024	C101101-04	Beryllium	0.968	J+	JC110.3
CC02D	UAAD004	C101101-07	Molybdenum	1.99	U	UCB1.25
CC02D	UAAD004	C101101-08	Beryllium	4.82	J+	JC110.3
CC03C	UAAD003	C101101-09	Molybdenum	1.54	U	UCB2.5
CC03C	UAAD003	C101101-10	Beryllium	8.40	J+	JC110.3
CC03D	UASW015	C101101-11	Beryllium	6.95	J+	JC110.3
CC06	UAAD002	C101101-13	Beryllium	7.03	J+	JC110.3
CC17	UASW005	C101101-14	Molybdenum	0.535	U	UCB1.35
CC18	UASW007	C101101-16	Beryllium	3.54	J+	JC110.3
CC19	UAAD001	C101101-18	Beryllium	4.18	J+	JC110.3
CC48 DUP	UASW097	C101101-20	Beryllium	1.30	J+	JC110.3
UASW001	UASW001	C101101-23	Beryllium	1.17	J+	JC110.3
UASW002	UASW002	C101101-24	Silver	0.953	U	UCB.6
UASW002	UASW002	C101101-24	Molybdenum	1.04	U	UCB1.35
UASW034	UASW034	C101101-41	Molybdenum	0.670	U	UCB1.35
UASW036	UASW036	C101101-42	Molybdenum	0.900	U	UCB1.35
UASW036	UASW036	C101101-42	Silver	0.891	U	UCB.6
UASW037	UASW037	C101101-43	Molybdenum	0.557	U	UCB1.35

Sample Tracking:
There are Deliverable Submission Forms, but no actual laboratory log-in forms. The integrity of the samples cannot be verified. There are no courier forms or tracking identifications. Sample authentication cannot be verified.

Note that the laboratory forms do not contain dates or times of analysis on the result forms nor on the QC and Calibration Forms. This is not uncommon for CLP-type forms, but it means that the raw data must be spot checked to verify the calibration associations. This was performed only for any outliers listed on the Calibration or QC forms.

No shipping or receiving problems were noted in the narrative. As the client was not notified of custody or integrity issues, no further action is taken.

Blanks:
There are results reported for many of the ICB and CCBs, but none are above the MDLs recorded on the result forms (the ICB/CCB forms only note the PQLs) with the exception of molybdenum reported at 0.25 ug/L for QC set 1011004 and 0.27 ug/l for QC 1011092, 093 and 094; silver at 0.15 ug/l for QC 1011004 and 0.12 ug/L for QC 1011092, 093 and 094 for ICPMS. The highest associated blank is applied to noted data. All ICPMS data are diluted 5 to 10 x for analysis and the Blank must also be multiplied by 5 or 10 in order to apply it to the client data. Data are qualified 'UCB#', where # is the applied blank value. The EPA Qualifier is 'U'.

The laboratory notes that molybdenum was detected in the prep blank at < 2 x PQL. The RL for was raised from 0.20 ug/L to o.40 ug/L. The client will need to determine if the elevated limits meet project criteria. The standard procedure for outlier blanks is to re-analyze the data with an acceptable blank.

Calibration:
One CCV was very slightly high for beryllium at 110.3%. This is noted for Sequence 1011097. The run logs had to be accessed as the Sequences are not noted on the Results forms which have on Batch numbers – and the Calibration forms do not have dates, times or Batch numbers. This is associated with Batch 1011092. Having a consistent association of samples to calibrations on the forms would be useful. Detected data for beryllium in batch 1011092 are qualified 'JC110.3' to indicate a slight high bias. The EPA qualifier is 'J'

Matrix Spike:
The sample results were > 4 x spike for outlier spikes for manganese, magnesium, zinc and calcium. Data are not qualified as the recovery is not statistically valid. The laboratory limits (65-125%) are wider than the CLP limits. The limits noted above are used for qualification. After consideration of the 4x recoveries, no data are qualified.

Detection Limits:
Note that the samples for ICPMS were diluted 5x to 10x. The analytes run by ICPMS were extremely high for lead, cadmium and sometimes copper. The review recommends using the ICP values that are in the raw data for these analytes, although the results were within an acceptable RPD. It is the lower values that are significantly different between the two types of analysis/instrumentation. The client will need to determine if the elevated limits meet project criteria.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
All detected data in QC set 1011092	Beryllium	J+	C110.3	5
All detected data in QC set 1011004	Silver		None, non-detect	7

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
All detected data in QC set 1011092, 093, 094	Silver	U	CB.12 (multiplied by dilution factor)	7
All detected data in QC set 1011004	Molybdenum	U	CB.25 (multiplied by dilution factor)	7
All detected data in QC set 1011092, 093, 094	Molybdenum	U	CB.27 (multiplied by dilution factor)	7

There are no rinse blanks, which is acceptable for dedicated sampling equipment.

Field duplicates were identified in the EDD and fully meet field RPD criteria of 20% RPD or ± 1x CRQL for waters.:

UASW005 and 098
UASW035 and 097
UASW019 and 099

1. DELIVERABLES

All deliverables were present as specified in the Statement of Work.
Yes___ No_X__

Comments: There are Deliverable Submission Forms, but no actual laboratory log-in forms. The integrity of the samples cannot be verified. There are no courier forms or tracking identifications. Sample authentication cannot be verified.
Note that the laboratory forms do not contain dates or times of analysis on the result forms nor on the QC and Calibration Forms. This is not uncommon for CLP-type forms, but it means that the raw data must be spot checked to verify the calibration associations. This was performed only for any outliers listed on the Calibration or QC forms.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All technical holding times and preservation criteria were met.
Yes_X__ No____

Comments: The samples were analyzed within specified holding times (180 days for metals and 28 days for mercury). No temperature reading for the cooler was recorded. Per the chain of custody, there were pre-printed fields that noted the sediment samples were (to be) preserved to 4 C and the waters to pH<2, but this cannot be verified as there are no log-in forms.

No shipping or receiving problems were noted in the narrative. As the client was not notified of custody or integrity issues, no further action is taken.

3. INSTRUMENT CALIBRATIONS: STANDARDS AND BLANKS

Initial instrument calibrations were performed according to SOW requirements.
Yes_X__ No____

Comments: None

The instruments were calibrated daily and each time an analysis run was performed.
Yes_X__ No____

Comments: None.

The instruments were calibrated using one blank and the appropriate number of standards.
Yes_X__ No____

Comments: None.

4. SAMPLE ANALYSIS RESULTS

Sample analyses were entered correctly on Form Is.
Yes_X_ No____

Comments: Per the 10% raw data check.

5. INITIAL AND CONTINUING CALIBRATION VERIFICATION

The initial and continuing calibration verification standards (ICV and CCV, respectively) met SOW requirements.
Yes_X_ No____

Comments: None

The calibration verification results were within 90-110% recovery for metals, 85-115% for cyanide, and 80-120% for mercury.
Yes___ No_X___

Comments: One CCV was very slightly high for beryllium at 110.3%. This is noted for Sequence 1011097. The run logs had to be accessed as the Sequences are not noted on the Results forms which have on Batch numbers – and the Calibration forms do not have dates, times or Batch numbers. This is associated with Batch 1011092. Having a consistent association of samples to calibrations on the forms would be useful. Detected data for beryllium in batch 1011092 are qualified 'JC110.3' to indicate a slight high bias. The EPA qualifier is 'J+'.

The continuing calibration standards were run at 10% frequency or every two hours.
Yes_X_ No____

Comments: None.

6. CRQL CHECK STANDARD

ICP Analysis: Standards (CRI) were analyzed at the beginning of each sample analysis run and every 20 analytical samples, immediately preceding the interferences check sample analyses, but not before ICV analysis.
Yes_X_ No___ NA____

Comments: None.

The CRI recoveries were within 70-130% (50 – 150% for ICP: Sb, Pb, Tl; ICP/MS: Co, Mn, Zn) for required elements.
Yes_X_ No____

Comments: None.

7. BLANKS

The initial and continuing calibration blanks (ICB and CCB, respectively) met SOW requirements.
Yes___ No_X_

Comments: There are results reported for many of the ICB and CCBs, but none are above the MDLs recorded on the result forms (the ICB/CCB forms only note the PQLs) with the exception of molybdenum reported at 0.25 ug/L for QC set 1011004 and 0.27 ug/l for QC 1011092, 093 and 094; silver at 0.15 ug/l for QC 1011004 and 0.12 ug/L for QC 1011092, 093 and 094 for ICPMS. The highest associated blank is applied to noted data. All ICPMS data are diluted 5 to 10 x for analysis and the Blank must also be multiplied by 5 or 10 in order to apply it to the client data. Data are qualified 'UCB#', where # is the applied blank value. The EPA Qualifier is 'U'.

The continuing calibration blanks were run at 10% frequency.
Yes_X_ No____

Comments: None.

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.
Yes_X_ No____

Comments: None

All analyzed blanks were free of contamination.
Yes____ No____X

Comments: The laboratory notes that molybdenum was detected in the prep blank at < 2 x PQL. The RL for was raised from 0.20 ug/L to 0.40 ug/L. It was also detected in the calibration blanks. The client will need to determine if the elevated limits meet project criteria. The standard procedure for outlier blanks is to re-analyze the data with an acceptable blank. See calibration blank section.

8. ICP INTERFERENCE CHECK SAMPLE

The ICP interference check sample (ICS) was run at the beginning of each sample analysis run, but not prior to the ICV.
Yes_X_ No____

Comments: None.

Percent recovery of the analytes in the ICS solutions were within the range of 80-120% or the result was within ±2x the CRQL.
Yes_X_ No____

Comments: None.

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values.
Yes_X_ No____

Comments: None

No sample results contain potential false positives and false negatives.
Yes_X_ No____

Comments: None.

9. MATRIX SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).
Yes_X_ No____ NA_____

Comments: Frequency met with client samples.

The percent recoveries (%Rs) were calculated correctly.
Yes_X_ No____ NA_____

Comments: None.

Spike recoveries were within the range of 75-125% (an exception is granted where the sample concentration is four times the spike concentration).
Yes_X_ No____

Comments: The sample results were > 4 x spike for outlier spikes for manganese, magnesium, zinc and calcium. Data are not qualified as the recovery is not statistically valid. The laboratory limits (65-125%) are wider than the CLP limits. The limits noted above are used for qualification. After consideration of the 4x recoveries, no data are qualified.

10. POST DIGEST SPIKE RECOVERY

A post-digest spike was performed for those elements that did not meet the specified criteria (i.e., Pre-digestion/pre-distillation spike recovery falls outside of control limits and sample result is less than four times the spike amount added, exception: Silver, mercury).
Yes_X_ No____ NA_____

Comments: See Section 9.0.

11. DUPLICATE SAMPLE ANALYSIS

Duplicate sample analysis was performed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).
Yes_X_ No____ NA_____

Comments: Duplicates and MS Duplicates are reported.

The RPDs were calculated correctly.
Yes_X_ No____ NA_____

Comments: None.

For sample concentrations greater than five times the CRQL, RPDs were < 20% (limits of <35% apply for soil/sediments/tailings samples).
Yes_X_ No____ NA_____

Comments: None.

For sample concentrations less than five times the CRQL, duplicate analysis results were within the control window of < CRQL (two times CRQL for soils).
Yes_X_ No____ NA_____

Comments: None.

12. ICP-MS

The ICP MS tune met SOW requirements.
Yes_X_ No___ NA___

Comments: The ICP MS instrument was correctly tuned prior to analysis and all tuning criteria were met. The % RSDs were within the 5% limits for the tune. The Ba/Ba++ and Ce/CeO ratios were reported and within limits. The amu (atomic mass units) at half peak width were within limits (in the range of 0.7 – 0.8).

The minimum number of internal standards were added to the analyses and bracketed the target analyte masses.
Yes_X_ No___

Comments: None.

All percent relative intensities were within 60-125%.
Yes_X_ No___

Comments: Per the 10% check of project data.

13. LABORATORY CONTROL SAMPLE

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).
Yes_X_ No____

All results were within control limits.
Yes_X_ No____

Comments: None

14. ICP-SERIAL DILUTION QC

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.
Yes_X_ No____

Comments: None.

The serial dilution was without interference problems as defined by the SOW or NFG.
Yes_X_ No____

Comments: The serial dilution %Ds were less than 10% or the original sample result was less than 50> the RL.

15. ANNUAL METHOD DETECTION LIMITS (MDL)

MDLs were provided for all elements on the target analyte list.
Yes_X_ No____

Comments: Last updated February 2010

Reported MDLs met SOW requirements.
Yes_X_ No____

Comments: Note that the samples for ICPMS were diluted 5x to 10x. The analytes run by ICPMS were extremely high for lead, cadmium and sometimes copper. The review recommends using the ICP values that are in the raw data for these analytes, although the results were within an acceptable RPD. It is the lower values that are significantly different between the two types of analysis/instrumentation. The client will need to determine if the elevated limits meet project criteria.

16. INTERELEMENT CORRECTION FACTORS FOR ICP

Interelement corrections for ICP were reported.
Yes_____ No_X_

Comments: Interelement corrections were not included. No action was required.

17. ICP LINEAR RANGES

ICP linear ranges were reported.
Yes__X___ No____

Comments: The linear ranges were updated in February 2010.

18. PREPARATION LOG

Information on the preparation of samples for analysis was reported on laboratory bench sheets as part of the raw data deliverable.
Yes__X___ No____

Comments: None.

19. ANALYSIS RUN LOG

A Form with the required information was filled out for each analysis run in the data package.
Yes__X___ No____

Comments: None.

20. Additional Comments or Problems/Resolutions Not Addressed Above

Yes__X___ No____

Comment:
There are no rinse blanks, which would be appropriate if dedicated equipment was used.
Field duplicates were identified in the EDD and fully meet field RPD criteria of 20% RPD or $\pm$ 1 x CRQL for waters.:
UASW005 and 098
UASW035 and 097
UASW019 and 099

INORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
J+	-	The associated numerical value is an estimated quantity but the result may be biased high.
J-	-	The associated numerical value is an estimated quantity but the result may be biased low.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

ACRONYMS

CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
CRQL	Contract Required Quantitation Limit
CRI	CRQL standard required for ICP
CV	Cold Vapor
EPA	U.S. Environmental Protection Agency
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICS	Interference Check Sample
ICSA	Interference Check Sample (Solution A)
ICSAB	Interference Check Sample (Solution AB)
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
MDL	Method Detection Limit
MS	Matrix Spike
MSD	MS Duplicate
NFG	EPA CLP National Functional Guidelines for Inorganic Data Review
PDS	Post Digestion Spike
QC	Quality Control
RPD	Relative Percent Difference
RPM	Regional Project Manager
RSD	Percent Relative Standard Deviation
SA	Spike Added
SAS	Special Analytical Services
SDG	Sample Delivery Group
SOW	Statement of Work
SR	Sample Result
SSR	Spiked Sample Result

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: A68 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-3 **Matrix:** Surface Water **Lab Number:** C101101-01 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**86.2**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**54300**		ug/L	100	1	11/18/2010	SW	1011092
200.7	Iron	< 250	U	ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**3290**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**1940**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**614**	J	ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**2460**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**449**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/18/2010	SV	1011092
200.8	Beryllium	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Cadmium**	**1.82**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Cobalt	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Copper	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Lead**	**0.790**	J	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Molybdenum**	**3.63**		ug/L	0.500 u	5	11/18/2010	SV	1011092
200.8	Nickel	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Silver**	**0.843**	J	ug/L	0.500 u	5	11/18/2010	SV	1011092
200.8	**Thallium**	**15.4**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/18/2010	SV	1011092

DS 4/4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: A72 **Date / Time Sampled:** 10/25/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-12 **Matrix:** Surface Water **Lab Number:** C101101-02 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**1300**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**87500**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Iron**	**8140**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**7330**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**796**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**1620**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**5580**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**94.6**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/18/2010	SV	1011092
200.8	Beryllium	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Cadmium**	**0.653**	J	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Cobalt**	**3.84**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Copper	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Lead**	**8.74**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Nickel	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/18/2010	SV	1011092

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CC01F **Date / Time Sampled:** 10/31/10 13:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-55 **Matrix:** Surface Water **Lab Number:** C101101-03 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**69.0**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**46200**		ug/L	100	1	11/18/2010	SW	1011092
200.7	Iron	< 250	U	ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**4060**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**120**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**294**	J	ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**1230**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**556**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Barium**	**30.8**	J	ug/L	25.0	5	11/18/2010	SV	1011092
200.8	Beryllium	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Cadmium**	**3.09**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Cobalt	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Copper**	**25.2**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Lead**	**0.620**	J	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Nickel	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/18/2010	SV	1011092

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CC01S **Date / Time Sampled:** 10/31/10 12:04 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-54 **Matrix:** Surface Water **Lab Number:** C101101-04 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**2180**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**72700**		ug/L	100	1	11/18/2010	SW	1011092
200.7	Iron	< 250	U	ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**9760**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**977**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**561**	J	ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**1340**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**3230**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Barium**	**34.7**	J	ug/L	25.0	5	11/18/2010	SV	1011092
200.8	**Beryllium**	**0.968**	J	ug/L	0.500 J+	5	11/18/2010	SV	1011092
200.8	**Cadmium**	**16.9**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Cobalt	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Copper**	**38.6**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Lead**	**2.21**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Nickel**	**12.1**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/18/2010	SV	1011092

DS 4/K

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CC01T **Date / Time Sampled:** 10/31/10 11:50 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-53 **Matrix:** Surface Water **Lab Number:** C101101-05 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**1580**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**55400**		ug/L	100	1	11/18/2010	SW	1011092
200.7	Iron	< 250	U	ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**7020**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**633**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**482**	J	ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**1280**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**2750**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Barium**	**29.1**	J	ug/L	25.0	5	11/18/2010	SV	1011092
200.8	Beryllium	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Cadmium**	**13.6**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Cobalt	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Copper**	**102**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Lead**	**2.03**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Nickel**	**6.06**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/18/2010	SV	1011092

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CC02A **Date / Time Sampled:** 10/31/10 11:19 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-52 **Matrix:** Surface Water **Lab Number:** C101101-06 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**1430**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**62000**		ug/L	100	1	11/18/2010	SW	1011092
200.7	Iron	< 250	U	ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**8310**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**111**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**634**	J	ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**1260**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**3080**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Barium**	**39.4**	J	ug/L	25.0	5	11/18/2010	SV	1011092
200.8	Beryllium	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Cadmium**	**10.9**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Cobalt	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Copper**	**22.3**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Lead**	**2.54**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Nickel**	**9.47**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/18/2010	SV	1011092

DS 4/10

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Dissolved) by EPA 200/7000 Series Methods

Station ID: CC02D **Date / Time Sampled:** 10/29/10 15:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-38 **Matrix:** Mine Discharge **Lab Number:** C101101-07 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	Aluminum	3300		ug/L	20.0	1	11/23/2010	SW	1011103
200.7	Calcium	211000		ug/L	100	1	11/23/2010	SW	1011103
200.7	Iron	27200		ug/L	100	1	11/23/2010	SW	1011103
200.7	Magnesium	13200		ug/L	100	1	11/23/2010	SW	1011103
200.7	Manganese	29100		ug/L	2.00	1	11/23/2010	SW	1011103
200.7	Potassium	2000		ug/L	250	1	11/23/2010	SW	1011103
200.7	Sodium	6210		ug/L	250	1	11/23/2010	SW	1011103
200.7	Zinc	32700		ug/L	10.0	1	11/23/2010	SW	1011103
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/23/2010	SV	1011104
200.8	Arsenic	2.72	J	ug/L	2.50	5	11/23/2010	SV	1011104
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/23/2010	SV	1011104
200.8	Beryllium	4.49		ug/L	0.500	5	11/23/2010	SV	1011104
200.8	Cadmium	50.9		ug/L	0.500	5	11/23/2010	SV	1011104
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/23/2010	SV	1011104
200.8	Cobalt	22.5		ug/L	0.500	5	11/23/2010	SV	1011104
200.8	Copper	20.9		ug/L	2.50	5	11/23/2010	SV	1011104
200.8	Lead	255		ug/L	0.500	5	11/23/2010	SV	1011104
200.8	Molybdenum	1.99	J	ug/L	0.500	5	11/23/2010	SV	1011104
200.8	Nickel	8.30		ug/L	2.50	5	11/23/2010	SV	1011104
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/23/2010	SV	1011104
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/23/2010	SV	1011104
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/23/2010	SV	1011104
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/23/2010	SV	1011104
2340B	Hardness	582		mg/L	2	1	11/23/2010	SW	1011103

DS 4/4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CC02D **Date / Time Sampled:** 10/29/10 15:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-42 **Matrix:** Mine Discharge **Lab Number:** C101101-08 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**3330**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**212000**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Iron**	**31900**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**13200**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**28700**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**2040**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**6280**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**31300**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Barium	< 100	U	ug/L	50.0	10	11/18/2010	SV	1011092
200.8	**Beryllium**	**4.82**		ug/L	1.00 J+	10	11/18/2010	SV	1011092
200.8	**Cadmium**	**55.0**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Chromium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	**Cobalt**	**22.3**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	**Copper**	**15.3**		ug/L	5.00	10	11/18/2010	SV	1011092
200.8	**Lead**	**271**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Molybdenum	< 2.00	U	ug/L	1.00	10	11/18/2010	SV	1011092
200.8	**Nickel**	**6.74**	J	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Selenium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Silver	< 5.00	U	ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Thallium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	11/18/2010	SV	1011092

DS
4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Dissolved) by EPA 200/7000 Series Methods

Station ID: CC03C **Date / Time Sampled:** 10/28/10 10:30 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-37 **Matrix:** Mine Discharge **Lab Number:** C101101-09 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**4620**		ug/L	20.0	1	11/23/2010	SW	1011103
200.7	**Calcium**	**442000**		ug/L	100	1	11/23/2010	SW	1011103
200.7	**Iron**	**101000**		ug/L	100	1	11/23/2010	SW	1011103
200.7	**Magnesium**	**28600**		ug/L	100	1	11/23/2010	SW	1011103
200.7	**Manganese**	**30500**		ug/L	2.00	1	11/23/2010	SW	1011103
200.7	**Potassium**	**1840**		ug/L	250	1	11/23/2010	SW	1011103
200.7	**Sodium**	**8530**		ug/L	250	1	11/23/2010	SW	1011103
200.7	**Zinc**	**15400**		ug/L	10.0	1	11/23/2010	SW	1011103
200.8	Antimony	< 10.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Barium	< 100	U	ug/L	50.0	10	11/23/2010	SV	1011104
200.8	**Beryllium**	**6.45**		ug/L	1.00	10	11/23/2010	SV	1011104
200.8	**Cadmium**	**48.7**		ug/L	1.00	10	11/23/2010	SV	1011104
200.8	Chromium	< 10.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	**Cobalt**	**102**		ug/L	1.00	10	11/23/2010	SV	1011104
200.8	Copper	< 10.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	**Lead**	**98.7**		ug/L	1.00	10	11/23/2010	SV	1011104
200.8	**Molybdenum**	**1.54**	J	ug/L	1.00 u	10	11/23/2010	SV	1011104
200.8	**Nickel**	**42.6**		ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Selenium	< 10.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Silver	< 5.00	U	ug/L	1.00	10	11/23/2010	SV	1011104
200.8	Thallium	< 10.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	11/23/2010	SV	1011104
2340B	**Hardness**	**1220**		mg/L	2	1	11/23/2010	SW	1011103

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CC03C **Date / Time Sampled:** 10/28/10 10:30 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-41 **Matrix:** Mine Discharge **Lab Number:** C101101-10 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**4680**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**441000**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Iron**	**102000**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**28700**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**30700**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**1860**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**8730**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**15500**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Barium	< 100	U	ug/L	50.0	10	11/18/2010	SV	1011092
200.8	**Beryllium**	**8.40**		ug/L	1.00 J+	10	11/18/2010	SV	1011092
200.8	**Cadmium**	**53.1**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Chromium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	**Cobalt**	**97.4**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Copper	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	**Lead**	**107**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Molybdenum	< 2.00	U	ug/L	1.00	10	11/18/2010	SV	1011092
200.8	**Nickel**	**38.2**		ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Selenium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Silver	< 5.00	U	ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Thallium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	11/18/2010	SV	1011092

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CC03D **Date / Time Sampled:** 10/28/10 10:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-46 **Matrix:** Surface Water **Lab Number:** C101101-11 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**3040**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**450000**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Iron**	**95200**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**28900**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**31900**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**1850**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**8800**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**15500**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Barium	< 100	U	ug/L	50.0	10	11/18/2010	SV	1011092
200.8	**Beryllium**	**6.95**		ug/L	1.00 J+	10	11/18/2010	SV	1011092
200.8	**Cadmium**	**42.2**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Chromium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	**Cobalt**	**95.9**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Copper	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	**Lead**	**13.1**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Molybdenum	< 2.00	U	ug/L	1.00	10	11/18/2010	SV	1011092
200.8	**Nickel**	**38.6**		ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Selenium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Silver	< 5.00	U	ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Thallium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	11/18/2010	SV	1011092

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Dissolved) by EPA 200/7000 Series Methods

Station ID: CC06 **Date / Time Sampled:** 10/28/10 13:39 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-36 **Matrix:** Mine Discharge **Lab Number:** C101101-12 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**18300**		ug/L	20.0	1	11/23/2010	SW	1011103
200.7	**Calcium**	**395000**		ug/L	100	1	11/23/2010	SW	1011103
200.7	**Iron**	**71600**		ug/L	100	1	11/23/2010	SW	1011103
200.7	**Magnesium**	**22600**		ug/L	100	1	11/23/2010	SW	1011103
200.7	**Manganese**	**27800**		ug/L	2.00	1	11/23/2010	SW	1011103
200.7	**Potassium**	**1790**		ug/L	250	1	11/23/2010	SW	1011103
200.7	**Sodium**	**5260**		ug/L	250	1	11/23/2010	SW	1011103
200.7	**Zinc**	**18600**		ug/L	10.0	1	11/23/2010	SW	1011103
200.8	Antimony	< 10.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Barium	< 100	U	ug/L	50.0	10	11/23/2010	SV	1011104
200.8	**Beryllium**	**5.98**		ug/L	1.00	10	11/23/2010	SV	1011104
200.8	**Cadmium**	**53.0**		ug/L	1.00	10	11/23/2010	SV	1011104
200.8	Chromium	< 10.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	**Cobalt**	**84.4**		ug/L	1.00	10	11/23/2010	SV	1011104
200.8	**Copper**	**4210**		ug/L	5.00	10	11/23/2010	SV	1011104
200.8	**Lead**	**5.66**		ug/L	1.00	10	11/23/2010	SV	1011104
200.8	Molybdenum	< 4.00	J,	ug/L	1.00	10	11/23/2010	SV	1011104
200.8	**Nickel**	**35.4**		ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Selenium	< 10.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Silver	< 5.00	U	ug/L	1.00	10	11/23/2010	SV	1011104
200.8	Thallium	< 10.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	11/23/2010	SV	1011104
2340B	**Hardness**	**1080**		mg/L	2	1	11/23/2010	SW	1011103

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CC06 **Date / Time Sampled:** 10/28/10 13:39 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-40 **Matrix:** Mine Discharge **Lab Number:** C101101-13 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**18500**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**398000**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Iron**	**73700**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**22800**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**28000**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**1810**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**5350**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**18700**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Barium	< 100	U	ug/L	50.0	10	11/18/2010	SV	1011092
200.8	**Beryllium**	**7.03**		ug/L	1.00 J+	10	11/18/2010	SV	1011092
200.8	**Cadmium**	**54.9**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Chromium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	**Cobalt**	**79.1**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	**Copper**	**4030**		ug/L	5.00	10	11/18/2010	SV	1011092
200.8	**Lead**	**6.82**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Molybdenum	< 2.00	U	ug/L	1.00	10	11/18/2010	SV	1011092
200.8	**Nickel**	**31.2**		ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Selenium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Silver	< 5.00	U	ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Thallium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	11/18/2010	SV	1011092

DS 4/1

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CC17 **Date / Time Sampled:** 10/27/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-5 **Matrix:** Surface Water **Lab Number:** C101101-14 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**720**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**162000**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Iron**	**3230**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**8230**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**1840**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**747**	J	ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**3470**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**647**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/18/2010	SV	1011092
200.8	Beryllium	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Cadmium**	**2.73**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Cobalt**	**7.71**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Copper**	**8.83**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Lead**	**0.643**	J	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Molybdenum**	**0.535**	J	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Nickel	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/18/2010	SV	1011092

DS 4/12

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CC17 DUP **Date / Time Sampled:** 10/27/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-34 **Matrix:** Surface Water **Lab Number:** C101101-15 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**572**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**163000**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Iron**	**3090**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**8340**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**1860**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**752**	J	ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**3520**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**661**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/18/2010	SV	1011092
200.8	Beryllium	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Cadmium**	**2.41**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Cobalt**	**7.36**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Copper**	**6.50**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Lead	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Nickel	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/18/2010	SV	1011092

DS 4/A

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CC18 **Date / Time Sampled:** 10/27/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-7 **Matrix:** Surface Water **Lab Number:** C101101-16 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**5730**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**450000**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Iron**	**131000**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**31400**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**43000**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**1740**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**9500**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**18800**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Barium	< 100	U	ug/L	50.0	10	11/18/2010	SV	1011092
200.8	**Beryllium**	**3.54**		ug/L	1.00 J+	10	11/18/2010	SV	1011092
200.8	**Cadmium**	**2.54**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Chromium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	**Cobalt**	**136**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Copper	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	**Lead**	**1.52**	J	ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Molybdenum	< 2.00	U	ug/L	1.00	10	11/18/2010	SV	1011092
200.8	**Nickel**	**46.9**		ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Selenium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Silver	< 5.00	U	ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Thallium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	11/18/2010	SV	1011092

DS 4/n

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Dissolved) by EPA 200/7000 Series Methods

Station ID: CC19 **Date / Time Sampled:** 10/27/10 10:05 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-35 **Matrix:** Mine Discharge **Lab Number:** C101101-17 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**4990**		ug/L	20.0	1	11/23/2010	SW	1011103
200.7	**Calcium**	**434000**		ug/L	100	1	11/23/2010	SW	1011103
200.7	**Iron**	**133000**		ug/L	100	1	11/23/2010	SW	1011103
200.7	**Magnesium**	**29900**		ug/L	100	1	11/23/2010	SW	1011103
200.7	**Manganese**	**41700**		ug/L	2.00	1	11/23/2010	SW	1011103
200.7	**Potassium**	**1680**		ug/L	250	1	11/23/2010	SW	1011103
200.7	**Sodium**	**9080**		ug/L	250	1	11/23/2010	SW	1011103
200.7	**Zinc**	**18100**		ug/L	10.0	1	11/23/2010	SW	1011103
200.8	Antimony	< 10.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Barium	< 100	U	ug/L	50.0	10	11/23/2010	SV	1011104
200.8	**Beryllium**	**3.70**		ug/L	1.00	10	11/23/2010	SV	1011104
200.8	**Cadmium**	**2.02**		ug/L	1.00	10	11/23/2010	SV	1011104
200.8	Chromium	< 10.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	**Cobalt**	**136**		ug/L	1.00	10	11/23/2010	SV	1011104
200.8	Copper	< 10.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	**Lead**	**1.12**	J	ug/L	1.00	10	11/23/2010	SV	1011104
200.8	Molybdenum	< 4.00	J,	ug/L	1.00	10	11/23/2010	SV	1011104
200.8	**Nickel**	**47.8**		ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Selenium	< 10.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Silver	< 5.00	U	ug/L	1.00	10	11/23/2010	SV	1011104
200.8	Thallium	< 10.0	U	ug/L	5.00	10	11/23/2010	SV	1011104
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	11/23/2010	SV	1011104
2340B	**Hardness**	**1210**		mg/L	2	1	11/23/2010	SW	1011103

"J" Qualifier indicates an estimated value

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CC19 **Date / Time Sampled:** 10/27/10 10:05 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-39 **Matrix:** Mine Discharge **Lab Number:** C101101-18 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**5520**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**457000**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Iron**	**144000**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**31600**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**44000**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**1790**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**9610**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**19100**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Barium	< 100	U	ug/L	50.0	10	11/18/2010	SV	1011092
200.8	**Beryllium**	**4.18**		ug/L	1.00 J+	10	11/18/2010	SV	1011092
200.8	**Cadmium**	**1.97**	J	ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Chromium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	**Cobalt**	**133**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Copper	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	**Lead**	**3.70**		ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Molybdenum	< 2.00	U	ug/L	1.00	10	11/18/2010	SV	1011092
200.8	**Nickel**	**46.3**		ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Selenium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Silver	< 5.00	U	ug/L	1.00	10	11/18/2010	SV	1011092
200.8	Thallium	< 10.0	U	ug/L	5.00	10	11/18/2010	SV	1011092
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	11/18/2010	SV	1011092

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CC48 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-16 **Matrix:** Surface Water **Lab Number:** C101101-19 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**7890**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**177000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**12000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**10900**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**4580**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**1840**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**4550**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**2340**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	**Beryllium**	**1.14**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**6.57**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Cobalt**	**22.3**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**147**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Lead**	**17.4**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Molybdenum	< 2.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**11.0**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DS 4/4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CC48 DUP **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-33 **Matrix:** Surface Water **Lab Number:** C101101-20 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**7870**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**175000**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Iron**	**11700**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**10900**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**4810**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**1800**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**4580**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**2500**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/18/2010	SV	1011092
200.8	**Beryllium**	**1.30**		ug/L	0.500 J+	5	11/18/2010	SV	1011092
200.8	**Cadmium**	**6.45**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Cobalt**	**21.6**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Copper**	**135**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Lead**	**19.0**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Nickel**	**9.52**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/18/2010	SV	1011092

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: CCOPP-12 **Date / Time Sampled:** 10/28/10 10:59 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-47 **Matrix:** Surface Water **Lab Number:** C101101-21 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**2480**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**87800**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Iron**	**210**	J	ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**6010**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**3000**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**532**	J	ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**2890**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**4640**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/18/2010	SV	1011092
200.8	Beryllium	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Cadmium**	**13.7**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Cobalt**	**1.83**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Copper**	**140**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Lead**	**7.42**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Nickel**	**3.23**	J	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/18/2010	SV	1011092

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: M34 **Date / Time Sampled:** 10/25/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-14 **Matrix:** Surface Water **Lab Number:** C101101-22 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**381**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**57500**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Iron**	**2800**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**4860**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**327**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**629**	J	ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**3300**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**185**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/18/2010	SV	1011092
200.8	Beryllium	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Cadmium**	**0.926**	J	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Cobalt**	**3.75**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Copper	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Lead**	**1.23**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Nickel	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/18/2010	SV	1011092

DS 4/1c

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW001 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-1 **Matrix:** Surface Water **Lab Number:** C101101-23 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**7330**		ug/L	20.0	1	11/18/2010	SW	1011092
200.7	**Calcium**	**169000**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Iron**	**10800**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Magnesium**	**10400**		ug/L	100	1	11/18/2010	SW	1011092
200.7	**Manganese**	**4760**		ug/L	2.00	1	11/18/2010	SW	1011092
200.7	**Potassium**	**1700**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Sodium**	**4450**		ug/L	250	1	11/18/2010	SW	1011092
200.7	**Zinc**	**2410**		ug/L	10.0	1	11/18/2010	SW	1011092
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/18/2010	SV	1011092
200.8	**Beryllium**	**1.17**		ug/L	0.500 J+	5	11/18/2010	SV	1011092
200.8	**Cadmium**	**6.19**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Cobalt**	**20.4**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Copper**	**121**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	**Lead**	**17.8**		ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	**Nickel**	**8.46**		ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/18/2010	SV	1011092
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/18/2010	SV	1011092
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/18/2010	SV	1011092

DS 4/12

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW002 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-2 **Matrix:** Surface Water **Lab Number:** C101101-24 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**7810**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**175000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**11500**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**10900**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**4650**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**1790**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**4540**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**2370**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	**Beryllium**	**0.826**	J	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**6.55**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Cobalt**	**23.7**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**148**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Lead**	**17.8**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Molybdenum**	**1.04**	J	ug/L u	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**10.6**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Silver**	**0.953**	J	ug/L u	0.500	5	11/22/2010	SV	1011093
200.8	**Thallium**	**5.61**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

JS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW004 **Date / Time Sampled:** 10/27/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-4 **Matrix:** Surface Water **Lab Number:** C101101-25 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**5130**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**202000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**16200**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**13100**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**10100**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**933**	J	ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**4480**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**5510**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	**Beryllium**	**2.28**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**16.1**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Cobalt**	**33.0**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**398**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Lead**	**25.0**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**14.7**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DS 4/12

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW006 **Date / Time Sampled:** 10/27/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-6 **Matrix:** Surface Water **Lab Number:** C101101-26 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**9160**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**258000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**32500**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**18200**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**18500**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**987**	J	ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**5630**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**10700**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	**Beryllium**	**3.61**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**30.3**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Cobalt**	**59.4**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**796**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Lead**	**44.8**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**24.8**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW008 **Date / Time Sampled:** 10/27/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-8 **Matrix:** Surface Water **Lab Number:** C101101-27 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**7940**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**238000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**30000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**16100**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**14800**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**926**	J	ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**5100**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**9230**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	**Beryllium**	**2.88**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**28.7**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Cobalt**	**46.6**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**884**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Lead**	**19.3**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**20.8**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW009 **Date / Time Sampled:** 10/27/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-9 **Matrix:** Surface Water **Lab Number:** C101101-28 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**7030**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**230000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**31400**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**15600**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**14800**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**899**	J	ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**4820**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**9350**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	**Beryllium**	**3.57**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**29.1**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Cobalt**	**49.2**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**909**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Lead**	**14.6**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**328**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DS 4/11

Project Name: Upper Animas - Water - Oct 2010

Certificate of Analysis

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW010 **Date / Time Sampled:** 10/27/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-10 **Matrix:** Surface Water **Lab Number:** C101101-29 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**23500**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**348000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**52900**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**24800**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**23700**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**1430**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**5140**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**16200**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 10.0	U	ug/L	5.00	10	11/22/2010	SV	1011093
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	11/22/2010	SV	1011093
200.8	Barium	< 100	U	ug/L	50.0	10	11/22/2010	SV	1011093
200.8	**Beryllium**	**6.34**		ug/L	1.00	10	11/22/2010	SV	1011093
200.8	**Cadmium**	**63.7**		ug/L	1.00	10	11/22/2010	SV	1011093
200.8	Chromium	< 10.0	U	ug/L	5.00	10	11/22/2010	SV	1011093
200.8	**Cobalt**	**83.1**		ug/L	1.00	10	11/22/2010	SV	1011093
200.8	**Copper**	**4230**		ug/L	5.00	10	11/22/2010	SV	1011093
200.8	**Lead**	**5.93**		ug/L	1.00	10	11/22/2010	SV	1011093
200.8	Molybdenum	< 2.00	U	ug/L	1.00	10	11/22/2010	SV	1011093
200.8	**Nickel**	**39.3**		ug/L	5.00	10	11/22/2010	SV	1011093
200.8	Selenium	< 10.0	U	ug/L	5.00	10	11/22/2010	SV	1011093
200.8	Silver	< 5.00	U	ug/L	1.00	10	11/22/2010	SV	1011093
200.8	Thallium	< 10.0	U	ug/L	5.00	10	11/22/2010	SV	1011093
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	11/22/2010	SV	1011093

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW011 **Date / Time Sampled:** 10/28/10 14:10 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-43 **Matrix:** Surface Water **Lab Number:** C101101-30 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**18100**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**388000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**66700**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**22300**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**26000**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**1790**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**5240**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**17100**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 10.0	U	ug/L	5.00	10	11/22/2010	SV	1011093
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	11/22/2010	SV	1011093
200.8	Barium	< 100	U	ug/L	50.0	10	11/22/2010	SV	1011093
200.8	**Beryllium**	**7.06**		ug/L	1.00	10	11/22/2010	SV	1011093
200.8	**Cadmium**	**53.3**		ug/L	1.00	10	11/22/2010	SV	1011093
200.8	Chromium	< 10.0	U	ug/L	5.00	10	11/22/2010	SV	1011093
200.8	**Cobalt**	**81.4**		ug/L	1.00	10	11/22/2010	SV	1011093
200.8	**Copper**	**4580**		ug/L	5.00	10	11/22/2010	SV	1011093
200.8	**Lead**	**5.66**		ug/L	1.00	10	11/22/2010	SV	1011093
200.8	Molybdenum	< 2.00	U	ug/L	1.00	10	11/22/2010	SV	1011093
200.8	**Nickel**	**35.8**		ug/L	5.00	10	11/22/2010	SV	1011093
200.8	Selenium	< 10.0	U	ug/L	5.00	10	11/22/2010	SV	1011093
200.8	Silver	< 5.00	U	ug/L	1.00	10	11/22/2010	SV	1011093
200.8	Thallium	< 10.0	U	ug/L	5.00	10	11/22/2010	SV	1011093
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	11/22/2010	SV	1011093

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW012 **Date / Time Sampled:** 10/28/10 14:25 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-44 **Matrix:** Surface Water **Lab Number:** C101101-31 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**3820**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**52500**		ug/L	100	1	11/22/2010	SW	1011093
200.7	Iron	< 250	U	ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**7230**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**742**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**545**	J	ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**2040**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**924**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	**Beryllium**	**0.595**	J	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**4.69**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Chromium**	**2.56**	J	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Cobalt**	**7.94**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**291**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Lead**	**4.50**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**5.44**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW013 **Date / Time Sampled:** 10/27/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-11 **Matrix:** Surface Water **Lab Number:** C101101-32 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**3550**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**210000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**27700**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**14000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**12800**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**874**	J	ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**4980**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**7890**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	**Beryllium**	**2.73**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**22.0**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Cobalt**	**36.3**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**128**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Lead**	**13.3**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**16.3**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DS 4/K

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW014 **Date / Time Sampled:** 10/28/10 09:45 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-45 **Matrix:** Surface Water **Lab Number:** C101101-33 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**4980**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**231000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**30600**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**15700**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**14900**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**920**	J	ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**5430**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**8770**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	**Beryllium**	**3.03**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**25.8**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Cobalt**	**46.0**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**121**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Lead**	**16.1**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**20.2**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DSL/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW017 **Date / Time Sampled:** 10/29/10 11:55 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-48 **Matrix:** Surface Water **Lab Number:** C101101-34 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**2570**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**81400**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**186**	J	ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**6280**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**3370**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**568**	J	ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**2610**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**4910**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	**Beryllium**	**1.08**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**15.8**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Cobalt**	**2.34**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**201**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Lead**	**12.6**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**4.23**	J	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW018 **Date / Time Sampled:** 10/29/10 13:30 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-49 **Matrix:** Surface Water **Lab Number:** C101101-35 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**2830**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**71600**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**413**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**6880**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**4040**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**593**	J	ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**2190**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**5950**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	**Beryllium**	**0.760**	J	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**19.2**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Cobalt**	**3.02**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**240**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Lead**	**11.9**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**5.71**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW019 **Date / Time Sampled:** 10/29/10 12:49 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-50 **Matrix:** Surface Water **Lab Number:** C101101-36 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**10100**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**174000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**4460**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**13600**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**21900**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**1420**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**5520**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**27600**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**3.80**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**72.8**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**22.6**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**820**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**75.6**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**13.6**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW019 DUP **Date / Time Sampled:** 10/29/10 12:49 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-57 **Matrix:** Surface Water **Lab Number:** C101101-37 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**10200**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**174000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**4570**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**13700**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**22000**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**1440**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**5560**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**27700**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	**Beryllium**	**3.96**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**74.2**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Cobalt**	**22.6**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**848**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Lead**	**76.6**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**13.7**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW020 **Date / Time Sampled:** 10/29/10 13:50 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-51 **Matrix:** Surface Water **Lab Number:** C101101-38 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**996**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**45100**		ug/L	100	1	11/22/2010	SW	1011093
200.7	Iron	< 250	U	ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**5520**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**306**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**462**	J	ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**1150**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**1920**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	Beryllium	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**8.88**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Cobalt	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**91.1**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Lead**	**4.01**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**4.42**	J	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW021 **Date / Time Sampled:** 10/31/10 11:10 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-58 **Matrix:** Surface Water **Lab Number:** C101101-39 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**1520**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**55900**		ug/L	100	1	11/22/2010	SW	1011093
200.7	Iron	< 250	U	ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**7150**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**550**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**517**	J	ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**1260**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**2550**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Barium**	**26.3**	J	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	**Beryllium**	**0.649**	J	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**12.0**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Cobalt	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**105**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Lead**	**2.62**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**6.43**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW032 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-13 **Matrix:** Surface Water **Lab Number:** C101101-40 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**275**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**76900**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**2630**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**5720**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**1270**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**856**	J	ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**3570**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**558**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	Beryllium	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**1.76**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Cobalt**	**6.34**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**13.9**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Lead	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Nickel	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DS 4/11

Project Name: Upper Animas - Water - Oct 2010

TDF #: DG-216

Certificate of Analysis

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW034
EPA Tag No.: No Tag Prefix-15
Date / Time Sampled: 10/26/10 00:00
Matrix: Surface Water
Workorder: C101101
Lab Number: C101101-41 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**530**		ug/L	20.0	1	11/22/2010	SW	1011093
200.7	**Calcium**	**91000**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Iron**	**1980**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Magnesium**	**5630**		ug/L	100	1	11/22/2010	SW	1011093
200.7	**Manganese**	**2560**		ug/L	2.00	1	11/22/2010	SW	1011093
200.7	**Potassium**	**1010**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Sodium**	**3150**		ug/L	250	1	11/22/2010	SW	1011093
200.7	**Zinc**	**1030**		ug/L	10.0	1	11/22/2010	SW	1011093
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011093
200.8	Beryllium	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Cadmium**	**2.96**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	**Cobalt**	**7.33**		ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Copper**	**26.1**		ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Lead	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Molybdenum**	**0.670**	J	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	**Nickel**	**2.96**	J	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011093
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011093
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011093

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW036 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-17 **Matrix:** Surface Water **Lab Number:** C101101-42 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**7800**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**171000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**12200**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**10600**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**4390**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**1780**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**4460**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**2260**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**0.910**	J	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**5.87**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**23.5**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**146**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**18.9**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Molybdenum**	**0.900**	J	ug/L	0.500 u	5	11/22/2010	SV	1011094
200.8	**Nickel**	**11.7**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Silver**	**0.891**	J	ug/L	0.500 u	5	11/22/2010	SV	1011094
200.8	**Thallium**	**6.35**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW037 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-18 **Matrix:** Surface Water **Lab Number:** C101101-43 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**7580**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**172000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**14800**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**10900**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**5280**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**1580**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**4310**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**2800**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**0.986**	J	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**7.38**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**24.7**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**175**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**22.4**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Molybdenum**	**0.557**	J	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**11.5**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Thallium**	**4.02**	J	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW039 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-19 **Matrix:** Surface Water **Lab Number:** C101101-44 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**8320**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**165000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**17600**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**11300**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**5610**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**1680**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**4090**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**3000**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**0.925**	J	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**7.47**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**27.3**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**184**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**25.7**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**12.7**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Thallium**	**2.77**	J	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW040 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-20 **Matrix:** Surface Water **Lab Number:** C101101-45 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**17100**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**57800**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**32700**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**12600**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**5010**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**1300**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**2180**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**1070**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**1.72**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**4.41**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**59.1**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**229**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**95.6**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**33.2**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW041 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-21 **Matrix:** Surface Water **Lab Number:** C101101-46 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**8090**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**171000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**17200**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**11300**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**5710**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**1680**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**4150**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**3090**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**1.58**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**8.71**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**26.7**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**184**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**24.5**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**12.9**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW042 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-22 **Matrix:** Surface Water **Lab Number:** C101101-47 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**7870**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**175000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**17100**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**11600**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**5900**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**1650**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**4280**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**3160**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**1.36**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**8.14**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**25.6**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**191**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**24.1**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**12.2**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

SS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW043 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-23 **Matrix:** Surface Water **Lab Number:** C101101-48 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**225**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**304000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**19300**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**18900**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**8020**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**2450**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**9620**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**2450**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 10.0	U	ug/L	5.00	10	11/22/2010	SV	1011094
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	11/22/2010	SV	1011094
200.8	Barium	< 100	U	ug/L	50.0	10	11/22/2010	SV	1011094
200.8	**Beryllium**	**1.31**	J	ug/L	1.00	10	11/22/2010	SV	1011094
200.8	**Cadmium**	**2.10**		ug/L	1.00	10	11/22/2010	SV	1011094
200.8	Chromium	< 10.0	U	ug/L	5.00	10	11/22/2010	SV	1011094
200.8	**Cobalt**	**34.9**		ug/L	1.00	10	11/22/2010	SV	1011094
200.8	Copper	< 10.0	U	ug/L	5.00	10	11/22/2010	SV	1011094
200.8	Lead	< 2.00	U	ug/L	1.00	10	11/22/2010	SV	1011094
200.8	Molybdenum	< 2.00	U	ug/L	1.00	10	11/22/2010	SV	1011094
200.8	Nickel	< 10.0	U	ug/L	5.00	10	11/22/2010	SV	1011094
200.8	Selenium	< 10.0	U	ug/L	5.00	10	11/22/2010	SV	1011094
200.8	Silver	< 5.00	U	ug/L	1.00	10	11/22/2010	SV	1011094
200.8	Thallium	< 10.0	U	ug/L	5.00	10	11/22/2010	SV	1011094
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW044 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-24 **Matrix:** Surface Water **Lab Number:** C101101-49 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**8150**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**167000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**18200**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**11200**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**5750**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**1650**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**4030**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**3210**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**1.32**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**9.09**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**28.9**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**212**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**26.0**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**14.9**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW045 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-25 **Matrix:** Surface Water **Lab Number:** C101101-50 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**4280**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**52700**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**268**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**9690**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**1620**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**714**	J	ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**1620**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**907**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Barium**	**29.0**	J	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**1.05**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**3.79**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**20.6**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**150**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**9.44**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**13.6**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW046 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-26 **Matrix:** Surface Water **Lab Number:** C101101-51 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**8340**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**170000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**20000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**11300**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**5780**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**1660**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**4030**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**3230**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**1.52**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**8.60**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**28.2**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**212**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**24.8**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**13.2**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW047 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-27 **Matrix:** Surface Water **Lab Number:** C101101-52 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**8450**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**170000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**21800**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**11400**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**5860**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**1680**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**3990**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**3320**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Arsenic**	**3.51**	J	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**1.44**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**8.99**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**29.4**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**225**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**24.7**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**14.4**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW049 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-28 **Matrix:** Surface Water **Lab Number:** C101101-53 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**8900**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**171000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**24100**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**11800**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**6180**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**1720**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**3870**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**3510**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Arsenic**	**5.00**	J	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**1.27**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**9.51**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**29.8**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**239**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**25.4**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**15.3**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW050 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-29 **Matrix:** Surface Water **Lab Number:** C101101-54 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**8830**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**169000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**23900**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**11700**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**6240**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**1700**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**3810**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**3560**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Arsenic**	**4.63**	J	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**1.50**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**9.70**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**28.7**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**235**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**25.3**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**15.2**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW054 **Date / Time Sampled:** 10/26/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-30 **Matrix:** Surface Water **Lab Number:** C101101-55 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**14400**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**35400**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**27600**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**7560**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**826**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**2130**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**1230**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**1350**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Arsenic**	**17.0**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**0.726**	J	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**5.33**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**26.1**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**190**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**57.3**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**19.6**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW056 **Date / Time Sampled:** 10/27/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-31 **Matrix:** Surface Water **Lab Number:** C101101-56 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**5440**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**178000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**16000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**12200**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**8750**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**1100**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**4280**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**4850**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**1.75**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**12.7**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**30.4**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**355**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**26.8**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**12.2**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW058 **Date / Time Sampled:** 10/27/10 00:00 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-32 **Matrix:** Surface Water **Lab Number:** C101101-57 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**5510**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**182000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**15900**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**12600**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**9150**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**1070**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**4370**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**5130**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**1.52**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**13.7**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Chromium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**30.4**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**366**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**27.9**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**12.6**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

DS 4/11

Project Name: Upper Animas - Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-216

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASW059 **Date / Time Sampled:** 10/31/10 12:40 **Workorder:** C101101
EPA Tag No.: No Tag Prefix-56 **Matrix:** Surface Water **Lab Number:** C101101-58 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**13200**		ug/L	20.0	1	11/22/2010	SW	1011094
200.7	**Calcium**	**17400**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Iron**	**46400**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Magnesium**	**12000**		ug/L	100	1	11/22/2010	SW	1011094
200.7	**Manganese**	**8740**		ug/L	2.00	1	11/22/2010	SW	1011094
200.7	**Potassium**	**362**	J	ug/L	250	1	11/22/2010	SW	1011094
200.7	**Sodium**	**626**		ug/L	250	1	11/22/2010	SW	1011094
200.7	**Zinc**	**24900**		ug/L	10.0	1	11/22/2010	SW	1011094
200.8	Antimony	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Arsenic**	**26.9**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Barium	< 50.0	U	ug/L	25.0	5	11/22/2010	SV	1011094
200.8	**Beryllium**	**0.940**	J	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Cadmium**	**105**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Chromium**	**5.46**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Cobalt**	**25.6**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Copper**	**4690**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	**Lead**	**33.8**		ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Molybdenum	< 1.00	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	**Nickel**	**16.4**		ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Selenium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Silver	< 2.50	U	ug/L	0.500	5	11/22/2010	SV	1011094
200.8	Thallium	< 5.00	U	ug/L	2.50	5	11/22/2010	SV	1011094
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	11/22/2010	SV	1011094

"J" Qualifier indicates an estimated value

DS 4/11

REGION VIII
DATA VALIDATION REPORT
INORGANIC

Case No. / TDD No.	Site Name		Operable Unit
C101003, C101004 / 1008-13	Upper Animas Mining District		
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	**Contract No.**	**TDF No.**	**Laboratory DPO/Region**
ESAT – TechLaw, Inc.		DG-214 water and soil	

Review Assigned Date March 28, 2011
Review Completion Date March 30, 2011

Data Validator Diane Short & Assoc. Review
Report Reviewer Kent Alexander

Sample ID	Matrix	Analysis
UASE001D	Sediment	Dissolved (water) and Total Recoverable (soil) Metals by EPA Methods 200.7 and 200.8
UASE002		
UASE003		
UASE001		
UASW001	Water	
UASW001 (should be 001D)		
UAWS002		
UASW003		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes _____ No ___X_____

CLP Project Officer Attention Required? Yes _____ No ___X_____ If yes, list the items that require attention:

INORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," (NFG) January 2010.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, TDF No. DG-214, consisted of 4 sediment samples for Total Recoverable Metals and 4 water samples for Dissolved Metals by Methods 200.7 and 200.8 by ICP. The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Deliverables:
Note that the laboratory forms do not contain times of analysis on the result forms nor on the QC and Calibration Forms. This is not uncommon for CLP-type forms, but it means that the raw data must be spot checked to verify the calibration associations. As there were no outliers, no further action is taken.

Sample Tracking:
There are Deliverable Submission Forms, but no actual laboratory log-in forms. The integrity of the samples cannot be verified. There are no courier forms or tracking identifications. Sample authentication cannot be verified. Samples were collected on 10/8/2010 and relinquished on 10/11/2010. There is no record of custody for that time period.

For the waters samples, the location ID was logged for the sample ID so the UASW001 and UASW001D distinction was not carried over into the laboratory result forms. Laboratory sample C1010004-2 should be client ID UASW001D.

No shipping or receiving problems were noted in the narrative. As the client was not notified of custody or integrity issues, no further action is taken.

Blanks:
There are results reported for many of the ICB and CCBs, but none are above the MDLs recorded on the result forms (the ICB/CCB forms only note the PQLs) with the exception of iron reported at 28.9 mg/kg for QC set 1010049 for ICP soils. All data are > 5 x Blank and no qualification is required.

The laboratory notes that cadmium was detected in the prep blank at < 2 x PQL. The result for cadmium is reported at 103 ug/kg. The RL for cadmium was raised from 20 ug/kg to 30 ug/kg. The client will need to determine if the elevated limits meet project criteria. All client data were > 5 x blank and no qualification is required.

There are no rinse blanks, which would be appropriate if dedicated equipment was used.

Interference Check:
The ICSA value for iron is 250,000 ug/l for water or 25,000 mg/kg for soil . Iron values for the sediments were greater than the ICSA, but the QC check was well within limits and no qualifications were required.

Laboratory Control Sample:
The LCS recovery for barium was at 56%. The LCS limit noted is 0 – 152%. These are extremely wide windows and the reviewer recommends considering this low bias in the use of the barium data. Data were not, however, qualified per the EPA guidance.

Detection Limits:
Note that the sediment samples for ICP were diluted 5x and those for ICPMS were diluted 10X. The analytes run by ICPMS were extremely high for lead, arsenic and vanadium. The review recommends using the ICP values that are in the raw data for these analytes, although the results were within an acceptable RPD. It is the lower values that are significantly different between the two types of analysis/instrumentation. The client will need to determine if the elevated limits meet project criteria.

Matrix Spike
Data are qualified JMS#, where # is the spike recovery. The EPA qualifier is 'J'. Data could be biased high or low proportional to the recovery. The sample results were > 4 x spike for outlier sediment spikes for aluminum, barium, iron, manganese, magnesium, zinc and calcium. Data are not qualified as the recovery is not statistically valid. The laboratory limits (65-125%) are wider than the CLP limits. The limits noted in the NFG are used for qualification. The following table lists the spike recoveries outside control limits, samples affected, and data qualifiers:

Field Duplicates:
If the UASE001 and 001D and the UASW001 and 001D are field duplicates, they meet the field duplicate precision criteria for low level and > 5 x CRQL results.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
All sediment samples	Barium	J-	LCS 56% - recommended, but not applied	13
All sediment samples	Sodium	J+	MS 136%	9
All sediment samples	Titanium	J-	MS 67%	

1. DELIVERABLES

All deliverables were present as specified in the Statement of Work.
Yes___ No_X__

Comments: There are Deliverable Submission Forms, but no actual laboratory log-in forms. The integrity of the samples cannot be verified. There are no courier forms or tracking identifications. Sample authentication cannot be verified.
Note that the laboratory forms do not contain times of analysis on the result forms nor on the QC and Calibration Forms. This is not uncommon for CLP-type forms, but it means that the raw data must be spot checked to verify the calibration associations. As there were no outliers, no further action is taken.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All technical holding times and preservation criteria were met.
Yes_X__ No____

Comments: The samples were analyzed within specified holding times (180 days for metals and 28 days for mercury). No temperature reading for the cooler was recorded. Per the chain of custody, there were pre-printed fields that noted the sediment samples were (to be) preserved to 4 C and the waters to pH<2, but this cannot be verified as there are no log-in forms.

No shipping or receiving problems were noted in the narrative. As the client was not notified of custody or integrity issues, no further action is taken.

3. INSTRUMENT CALIBRATIONS: STANDARDS AND BLANKS

Initial instrument calibrations were performed according to SOW requirements.
Yes_X__ No____

Comments: None.

The instruments were calibrated daily and each time an analysis run was performed.
Yes_X__ No____

Comments: None.

The instruments were calibrated using one blank and the appropriate number of standards.
Yes_X__ No____

Comments: None.

4. SAMPLE ANALYSIS RESULTS

Sample analyses were entered correctly on Form Is.
Yes_X_ No____

Comments: None.

5. INITIAL AND CONTINUING CALIBRATION VERIFICATION

The initial and continuing calibration verification standards (ICV and CCV, respectively) met SOW requirements.
Yes_X_ No____

Comments: None.

The calibration verification results were within 90-110% recovery for metals, 85-115% for cyanide, and 80-120% for mercury.
Yes_X_ No____

Comments: None.

The continuing calibration standards were run at 10% frequency or every two hours.
Yes_X_ No____

Comments: None.

6. CRQL CHECK STANDARD

ICP Analysis: Standards (CRI) were analyzed at the beginning of each sample analysis run and every 20 analytical samples, immediately preceding the interferences check sample analyses, but not before ICV analysis.
Yes_X_ No___ NA___

Comments: None.

The CRI recoveries were within 70-130% (50 – 150% for ICP: Sb, Pb, Tl; ICP/MS: Co, Mn, Zn) for required elements.
Yes_X_ No____

Comments: None.

7. BLANKS

The initial and continuing calibration blanks (ICB and CCB, respectively) met SOW requirements.
Yes____ No_X_

Comments: There are results reported for many of the ICB and CCBs, but none are above the MDLs recorded on the result forms (the ICB/CCB forms only note the PQLs) with the exception of iron reported at 28.9 mg/kg for QC set 1010049 for ICP soils. All data are > 5 x Blank and no qualification is required.

The continuing calibration blanks were run at 10% frequency.
Yes_X_ No____

Comments: None.

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.
Yes_X_ No____

Comments: None

All analyzed blanks were free of contamination.
Yes___ No___X

Comments: The laboratory notes that cadmium was detected in the prep blank at < 2 x PQL. The result for cadmium is reported at 103 ug/kg. The RL for cadmium was raised from 20 ug/kg to 30 ug/kg. The client will need to determine if the elevated limits meet project criteria. All client data were > 5 x blank and no qualification is required.

8. ICP INTERFERENCE CHECK SAMPLE

The ICP interference check sample (ICS) was run at the beginning of each sample analysis run, but not prior to the ICV.
Yes_X_ No____

Comments: None.

Percent recovery of the analytes in the ICS solutions were within the range of 80-120% or the result was within ±2x the CRQL.
Yes_X_ No____

Comments: None.

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values.
Yes___ No_X_

Comments: The ICSA value for iron is 250,000 ug/l for water or 25,000 mg/kg for soil . Iron values for the sediments were greater than the ICSA, but The QC check was well within limits and no qualifications were required.

No sample results contain potential false positives and false negatives.
Yes_X_ No____

Comments: None.

9. MATRIX SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).
Yes_X_ No____ NA_____

Comments: UASE001 and UASW001 were used for the MS/MSD samples.

The percent recoveries (%Rs) were calculated correctly.
Yes_X_ No____ NA_____

Comments: None.

Spike recoveries were within the range of 75-125% (an exception is granted where the sample concentration is four times the spike concentration).
Yes____ No_X_

Comments: Data are qualified JMS#, where # is the spike recovery. Data could be biased high or low proportional to the recovery. The sample results were > 4 x spike for outlier sediment spikes for aluminum, barium, iron, manganese, magnesium, zinc and calcium. Data are not qualified as the recovery is not statistically valid. The laboratory limits (65-125%) are wider than the CLP limits. The limits noted above are used for qualification. The following table lists the spike recoveries outside control limits, post digestion spike recoveries, samples affected, and data qualifiers:

Element	Matrix Spike %R	Post-Digestion %R	Samples Affected	Qualifiers
Sodium	136/ 136	104%	All sediment detects	JMS136
Titanium	67/ 71	Not in post spike	All sediment samples	JMS67

10. POST DIGEST SPIKE RECOVERY

A post-digest spike was performed for those elements that did not meet the specified criteria (i.e., Pre-digestion/pre-distillation spike recovery falls outside of control limits and sample result is less than four times the spike amount added, exception: Ag, Hg).
Yes_X_ No____ NA_____

Comments: See Section 9.0.

11. DUPLICATE SAMPLE ANALYSIS

Duplicate sample analysis was performed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).
Yes_X_ No___ NA_____

Comments: Duplicates and MS Duplicates are reported.

The RPDs were calculated correctly.
Yes_X_ No___ NA_____

Comments: None.

For sample concentrations greater than five times the CRQL, RPDs were < 20% (limits of <35% apply for soil/sediments/tailings samples).
Yes_X_ No___ NA_____

Comments: None.

For sample concentrations less than five times the CRQL, duplicate analysis results were within the control window of < CRQL (two times CRQL for soils).
Yes_X_ No___ NA_____

Comments: None.

12. ICP-MS

The ICP MS tune met SOW requirements.
Yes_X_ No___ NA___

Comments: The ICP MS instrument was correctly tuned prior to analysis and all tuning criteria were met. The % RSDs were within the 5% limits for the tune. The Ba/Ba++ and Ce/CeO ratios were reported and within limits. The amu (atomic mass units) at half peak width were within limits (in the range of 0.7 – 0.8).

The minimum number of internal standards were added to the analyses and bracketed the target analyte masses.
Yes_X_ No___

Comments: None.

All percent relative intensities were within 60-125%.
Yes_X_ No___

Comments: None.

13. LABORATORY CONTROL SAMPLE

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).
Yes_X_ No____

Comments: Note that for sediments, the LCS does not contain titanium, strontium or molybdenum. This is not uncommon as the LCS is a standard reference soil and these analytes are not routinely present.

All results were within control limits.
Yes_X_ No____

Comments: The LCS recovery for barium was at 56%. The LCS limit noted is 0 – 152%. These are extremely wide windows and the reviewer recommends considering this low bias in the use of the barium data. Data were not, however, qualified per the EPA guidance.

14. ICP-SERIAL DILUTION QC

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.
Yes_X_ No____

Comments: None.

The serial dilution was without interference problems as defined by the SOW or NFG.
Yes_X_ No____

Comments: The serial dilution %Ds were less than 10% or the original sample result was less than 50> the RL.

15. ANNUAL METHOD DETECTION LIMITS (MDL)

MDLs were provided for all elements on the target analyte list.
Yes_X_ No____

Comments: Last updated February 2010

Reported MDLs met SOW requirements.

Yes_X_ No____

Comments: Note that the sediment samples for ICP were diluted 5x and those for ICPMS were diluted 10X. The analytes run by ICPMS were extremely high for lead, arsenic and vanadium. The review recommends using the ICP values that are in the raw data for these analytes, although the results were within an acceptable RPD. It is the lower values that are significantly different between the two types of analysis/ instrumentation. These can be reported in a comparison table upon request. The project manager will determine if project limits are met.

16. INTERELEMENT CORRECTION FACTORS FOR ICP

Interelement corrections for ICP were reported.
Yes_____ No_X_

Comments: Interelement corrections were not included. No action was required.

17. ICP LINEAR RANGES

ICP linear ranges were reported.
Yes_X_ No____

Comments: The linear ranges were updated in February 2010.

18. PREPARATION LOG

Information on the preparation of samples for analysis was reported on laboratory bench sheets as part of the raw data deliverable.
Yes_X_ No____

Comments: None.

19. ANALYSIS RUN LOG

A Form with the required information was filled out for each analysis run in the data package.
Yes_X_ No____

Comments: None.

20. Additional Comments or Problems/Resolutions Not Addressed Above

Yes_X_ No____

Comment: For the water samples, the location ID was logged for the sample ID so the UASW001 and UASW001D distinction was not carried over into the laboratory result forms. Laboratory sample C1010004-2 should be client ID UASW001D.
Samples were collected on 10/8/2010 and relinquished on 10/11/2010. There is no record of custody for that time period.

If the UASE001 and 001D and the UASW001 and 001D are field duplicates, they meet the field duplicate precision criteria for low level and > 5 x CRQL results.
There are no rinse blanks, which would be appropriate if dedicated equipment was used.

INORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
J+	-	The associated numerical value is an estimated quantity but the result may be biased high.
J-	-	The associated numerical value is an estimated quantity but the result may be biased low.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

ACRONYMS

CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
CRQL	Contract Required Quantitation Limit
CRI	CRQL standard required for ICP
CV	Cold Vapor
EPA	U.S. Environmental Protection Agency
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICS	Interference Check Sample
ICSA	Interference Check Sample (Solution A)
ICSAB	Interference Check Sample (Solution AB)
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
MDL	Method Detection Limit
MS	Matrix Spike
MSD	MS Duplicate
NFG	EPA CLP National Functional Guidelines for Inorganic Data Review
PDS	Post Digestion Spike
QC	Quality Control
RPD	Relative Percent Difference
RPM	Regional Project Manager
RSD	Percent Relative Standard Deviation
SA	Spike Added
SAS	Special Analytical Services
SDG	Sample Delivery Group
SOW	Statement of Work
SR	Sample Result
SSR	Spiked Sample Result

Project Name: Upper Animas - Rush SED - Oct 2010 **Certificate of Analysis**

TDF #: DG-214

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASE001D **Date / Time Sampled:** 10/08/10 00:00 **Workorder:** C101003
EPA Tag No.: **Matrix:** Sediment **Lab Number:** C101003-01 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
EPA 200.2 / 200.8	**Antimony**	**4230**		ug/kg dry wt	499	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	**Arsenic**	**45400**		ug/kg dry wt	499	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	**Cadmium**	**990**		ug/kg dry wt	99.7	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	**Chromium**	**3500**		ug/kg dry wt	499	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	**Cobalt**	**5360**		ug/kg dry wt	99.7	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	**Lead**	**460000**		ug/kg dry wt	99.7	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	**Molybdenum**	**4660**		ug/kg dry wt	99.7	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	**Nickel**	**2840**		ug/kg dry wt	499	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	**Selenium**	**2530**		ug/kg dry wt	499	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	**Silver**	**2570**		ug/kg dry wt	99.7	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Thallium	< 997	U	ug/kg dry wt	499	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	**Vanadium**	**19000**		ug/kg dry wt	997	10	10/13/2010	SV	1010049
EPA 200.2/200.7	**Aluminum**	**8250**		mg/kg dry wt	9.97	5	10/12/2010	SW	1010049
EPA 200.2/200.7	**Barium**	**215**		mg/kg dry wt	0.997	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Beryllium	< 2.49	U	mg/kg dry wt	0.997	5	10/12/2010	SW	1010049
EPA 200.2/200.7	**Calcium**	**1550**		mg/kg dry wt	49.9	5	10/12/2010	SW	1010049
EPA 200.2/200.7	**Copper**	**116**		mg/kg dry wt	0.997	5	10/12/2010	SW	1010049
EPA 200.2/200.7	**Iron**	**58400**		mg/kg dry wt	49.9	5	10/12/2010	SW	1010049
EPA 200.2/200.7	**Magnesium**	**2630**		mg/kg dry wt	49.9	5	10/12/2010	SW	1010049
EPA 200.2/200.7	**Manganese**	**801**		mg/kg dry wt	0.997	5	10/12/2010	SW	1010049
EPA 200.2/200.7	**Potassium**	**1220**		mg/kg dry wt	125	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Sodium	< 249	U	mg/kg dry wt	125	5	10/12/2010	SW	1010049
EPA 200.2/200.7	**Strontium**	**83.6**		mg/kg dry wt	0.997	5	10/12/2010	SW	1010049
EPA 200.2/200.7	**Titanium**	**23.8**		mg/kg dry wt	2.49 J-	5	10/12/2010	SW	1010049
EPA 200.2/200.7	**Zinc**	**339**		mg/kg dry wt	4.99	5	10/12/2010	SW	1010049

Project Name: Upper Animas - Rush SED - Oct 2010 **Certificate of Analysis**

TDF #: DG-214

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASE002 **Date / Time Sampled:** 10/08/10 00:00 **Workorder:** C101003
EPA Tag No.: **Matrix:** Sediment **Lab Number:** C101003-02 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
EPA 200.2 / 200.8	Antimony	5800		ug/kg dry wt	500	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Arsenic	49600		ug/kg dry wt	500	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Cadmium	674		ug/kg dry wt	99.9	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Chromium	2890		ug/kg dry wt	500	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Cobalt	2600		ug/kg dry wt	99.9	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Lead	382000		ug/kg dry wt	99.9	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Molybdenum	3410		ug/kg dry wt	99.9	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Nickel	2230		ug/kg dry wt	500	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Selenium	2760		ug/kg dry wt	500	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Silver	2820		ug/kg dry wt	99.9	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Thallium	1170		ug/kg dry wt	500	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Vanadium	18300		ug/kg dry wt	999	10	10/13/2010	SV	1010049
EPA 200.2/200.7	Aluminum	5420		mg/kg dry wt	9.99	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Barium	326		mg/kg dry wt	0.999	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Beryllium	< 2.50	U	mg/kg dry wt	0.999	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Calcium	863		mg/kg dry wt	50.0	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Copper	39.5		mg/kg dry wt	0.999	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Iron	46900		mg/kg dry wt	50.0	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Magnesium	2220		mg/kg dry wt	50.0	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Manganese	235		mg/kg dry wt	0.999	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Potassium	1380		mg/kg dry wt	125	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Sodium	< 250	U	mg/kg dry wt	125	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Strontium	90.9		mg/kg dry wt	0.999	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Titanium	17.5		mg/kg dry wt	2.50 J	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Zinc	199		mg/kg dry wt	5.00	5	10/12/2010	SW	1010049

DS 4/11

Project Name: Upper Animas - Rush SED - Oct 2010 **Certificate of Analysis**

TDF #: DG-214

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASE003 **Date / Time Sampled:** 10/08/10 00:00 **Workorder:** C101003
EPA Tag No.: **Matrix:** Sediment **Lab Number:** C101003-03 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
EPA 200.2 / 200.8	Antimony	1190		ug/kg dry wt	499	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Arsenic	19800		ug/kg dry wt	499	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Cadmium	8840		ug/kg dry wt	99.7	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Chromium	4120		ug/kg dry wt	499	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Cobalt	11500		ug/kg dry wt	99.7	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Lead	882000		ug/kg dry wt	99.7	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Molybdenum	7200		ug/kg dry wt	99.7	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Nickel	7950		ug/kg dry wt	499	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Selenium	877	J	ug/kg dry wt	499	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Silver	5080		ug/kg dry wt	99.7	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Thallium	503	J	ug/kg dry wt	499	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Vanadium	18000		ug/kg dry wt	997	10	10/13/2010	SV	1010049
EPA 200.2/200.7	Aluminum	9830		mg/kg dry wt	9.97	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Barium	128		mg/kg dry wt	0.997	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Beryllium	1.58	J	mg/kg dry wt	0.997	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Calcium	3420		mg/kg dry wt	49.9	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Copper	203		mg/kg dry wt	0.997	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Iron	24800		mg/kg dry wt	49.9	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Magnesium	5520		mg/kg dry wt	49.9	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Manganese	8730		mg/kg dry wt	0.997	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Potassium	750		mg/kg dry wt	125	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Sodium	< 249	U	mg/kg dry wt	125	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Strontium	44.9		mg/kg dry wt	0.997	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Titanium	62.7		mg/kg dry wt	2.49 J-	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Zinc	2400		mg/kg dry wt	4.99	5	10/12/2010	SW	1010049

DS 4/11

Project Name: Upper Animas - Rush SED - Oct 2010 **Certificate of Analysis**

TDF #: DG-214

Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: UASE001 **Date / Time Sampled:** 10/08/10 00:00 **Workorder:** C101003
EPA Tag No.: **Matrix:** Sediment **Lab Number:** C101003-04 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
EPA 200.2 / 200.8	Antimony	5410		ug/kg dry wt	494	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Arsenic	52900		ug/kg dry wt	494	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Cadmium	829		ug/kg dry wt	98.8	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Chromium	3490		ug/kg dry wt	494	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Cobalt	4590		ug/kg dry wt	98.8	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Lead	531000		ug/kg dry wt	98.8	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Molybdenum	5560		ug/kg dry wt	98.8	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Nickel	2830		ug/kg dry wt	494	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Selenium	2980		ug/kg dry wt	494	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Silver	3790		ug/kg dry wt	98.8	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Thallium	643	J	ug/kg dry wt	494	10	10/13/2010	SV	1010049
EPA 200.2 / 200.8	Vanadium	19300		ug/kg dry wt	988	10	10/13/2010	SV	1010049
EPA 200.2/200.7	Aluminum	9450		mg/kg dry wt	9.88	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Barium	261		mg/kg dry wt	0.988	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Beryllium	< 2.47	U	mg/kg dry wt	0.988	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Calcium	1620		mg/kg dry wt	49.4	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Copper	158		mg/kg dry wt	0.988	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Iron	63100		mg/kg dry wt	49.4	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Magnesium	2490		mg/kg dry wt	49.4	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Manganese	602		mg/kg dry wt	0.988	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Potassium	1330		mg/kg dry wt	124	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Sodium	< 247	U	mg/kg dry wt	124	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Strontium	91.8		mg/kg dry wt	0.988	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Titanium	20.1		mg/kg dry wt	2.47 J-	5	10/12/2010	SW	1010049
EPA 200.2/200.7	Zinc	364		mg/kg dry wt	4.94	5	10/12/2010	SW	1010049

"J" Qualifier indicates an estimated value

DS 4/1.1

Project Name: Upper Animas - Rush Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-214

Metals (Dissolved) by EPA 200/7000 Series Methods

Station ID: UASW001 **Date / Time Sampled:** 10/08/10 00:00 **Workorder:** C101004
EPA Tag No.: **Matrix:** Water **Lab Number:** C101004-01 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**3240**		ug/L	20.0	1	10/11/2010	SW	1010050
200.7	**Barium**	**18.1**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	Beryllium	< 5.00	U	ug/L	2.00	1	10/11/2010	SW	1010050
200.7	**Calcium**	**107000**		ug/L	100	1	10/11/2010	SW	1010050
200.7	**Copper**	**88.6**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	**Iron**	**2170**		ug/L	100	1	10/11/2010	SW	1010050
200.7	**Magnesium**	**6790**		ug/L	100	1	10/11/2010	SW	1010050
200.7	**Manganese**	**3040**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	**Potassium**	**1200**		ug/L	250	1	10/11/2010	SW	1010050
200.7	**Sodium**	**3300**		ug/L	250	1	10/11/2010	SW	1010050
200.7	**Strontium**	**1230**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	Thallium	< 50.0	U	ug/L	20.0	1	10/11/2010	SW	1010050
200.7	Titanium	< 20.0	U	ug/L	5.00	1	10/11/2010	SW	1010050
200.7	**Zinc**	**1530**		ug/L	10.0	1	10/11/2010	SW	1010050
200.8	Antimony	< 10.0	U	ug/L	5.00	10	10/12/2010	SV	1010052
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	10/12/2010	SV	1010052
200.8	**Cadmium**	**4.54**		ug/L	1.00	10	10/12/2010	SV	1010052
200.8	Chromium	< 10.0	U	ug/L	5.00	10	10/12/2010	SV	1010052
200.8	**Cobalt**	**12.7**		ug/L	1.00	10	10/12/2010	SV	1010052
200.8	**Lead**	**8.38**		ug/L	1.00	10	10/12/2010	SV	1010052
200.8	**Molybdenum**	**1.23**	J	ug/L	1.00	10	10/12/2010	SV	1010052
200.8	**Nickel**	**6.69**	J	ug/L	5.00	10	10/12/2010	SV	1010052
200.8	Selenium	< 10.0	U	ug/L	5.00	10	10/12/2010	SV	1010052
200.8	**Silver**	**1.19**	J	ug/L	1.00	10	10/12/2010	SV	1010052
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	10/12/2010	SV	1010052
2340B	**Hardness**	**295**		mg/L	2	1	10/11/2010	SW	1010050

DS 4/11

Project Name: Upper Animas - Rush Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-214

Metals (Dissolved) by EPA 200/7000 Series Methods

Station ID: UASW00 D **Date / Time Sampled:** 10/08/10 00:00 **Workorder:** C101004
EPA Tag No.: **Matrix:** Water **Lab Number:** C101004-02 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**3320**		ug/L	20.0	1	10/11/2010	SW	1010050
200.7	**Barium**	**18.4**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	Beryllium	< 5.00	U	ug/L	2.00	1	10/11/2010	SW	1010050
200.7	**Calcium**	**108000**		ug/L	100	1	10/11/2010	SW	1010050
200.7	**Copper**	**91.3**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	**Iron**	**2180**		ug/L	100	1	10/11/2010	SW	1010050
200.7	**Magnesium**	**6930**		ug/L	100	1	10/11/2010	SW	1010050
200.7	**Manganese**	**3060**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	**Potassium**	**1210**		ug/L	250	1	10/11/2010	SW	1010050
200.7	**Sodium**	**3350**		ug/L	250	1	10/11/2010	SW	1010050
200.7	**Strontium**	**1260**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	Thallium	< 50.0	U	ug/L	20.0	1	10/11/2010	SW	1010050
200.7	Titanium	< 20.0	U	ug/L	5.00	1	10/11/2010	SW	1010050
200.7	**Zinc**	**1550**		ug/L	10.0	1	10/11/2010	SW	1010050
200.8	Antimony	< 10.0	U	ug/L	5.00	10	10/12/2010	SV	1010052
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	10/12/2010	SV	1010052
200.8	**Cadmium**	**4.91**		ug/L	1.00	10	10/12/2010	SV	1010052
200.8	Chromium	< 10.0	U	ug/L	5.00	10	10/12/2010	SV	1010052
200.8	**Cobalt**	**11.5**		ug/L	1.00	10	10/12/2010	SV	1010052
200.8	**Lead**	**7.99**		ug/L	1.00	10	10/12/2010	SV	1010052
200.8	Molybdenum	< 2.00	U	ug/L	1.00	10	10/12/2010	SV	1010052
200.8	**Nickel**	**5.49**	J	ug/L	5.00	10	10/12/2010	SV	1010052
200.8	Selenium	< 10.0	U	ug/L	5.00	10	10/12/2010	SV	1010052
200.8	Silver	< 5.00	U	ug/L	1.00	10	10/12/2010	SV	1010052
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	10/12/2010	SV	1010052
2340B	**Hardness**	**299**		mg/L	2	1	10/11/2010	SW	1010050

KSA 4/4/11

Project Name: Upper Animas - Rush Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-214

Metals (Dissolved) by EPA 200/7000 Series Methods

Station ID: UASW002 **Date / Time Sampled:** 10/08/10 00:00 **Workorder:** C101004
EPA Tag No.: **Matrix:** Water **Lab Number:** C101004-03 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**7350**		ug/L	20.0	1	10/11/2010	SW	1010050
200.7	**Barium**	**12.5**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	Beryllium	< 5.00	U	ug/L	2.00	1	10/11/2010	SW	1010050
200.7	**Calcium**	**165000**		ug/L	100	1	10/11/2010	SW	1010050
200.7	**Copper**	**180**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	**Iron**	**7260**		ug/L	100	1	10/11/2010	SW	1010050
200.7	**Magnesium**	**10400**		ug/L	100	1	10/11/2010	SW	1010050
200.7	**Manganese**	**4570**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	**Potassium**	**1750**		ug/L	250	1	10/11/2010	SW	1010050
200.7	**Sodium**	**4350**		ug/L	250	1	10/11/2010	SW	1010050
200.7	**Strontium**	**1950**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	Thallium	< 50.0	U	ug/L	20.0	1	10/11/2010	SW	1010050
200.7	Titanium	< 20.0	U	ug/L	5.00	1	10/11/2010	SW	1010050
200.7	**Zinc**	**2590**		ug/L	10.0	1	10/11/2010	SW	1010050
200.8	Antimony	< 10.0	U	ug/L	5.00	10	10/12/2010	SV	1010052
200.8	Arsenic	< 20.0	U	ug/L	5.00	10	10/12/2010	SV	1010052
200.8	**Cadmium**	**7.50**		ug/L	1.00	10	10/12/2010	SV	1010052
200.8	Chromium	< 10.0	U	ug/L	5.00	10	10/12/2010	SV	1010052
200.8	**Cobalt**	**22.5**		ug/L	1.00	10	10/12/2010	SV	1010052
200.8	**Lead**	**30.7**		ug/L	1.00	10	10/12/2010	SV	1010052
200.8	Molybdenum	< 2.00	U	ug/L	1.00	10	10/12/2010	SV	1010052
200.8	**Nickel**	**11.4**		ug/L	5.00	10	10/12/2010	SV	1010052
200.8	Selenium	< 10.0	U	ug/L	5.00	10	10/12/2010	SV	1010052
200.8	Silver	< 5.00	U	ug/L	1.00	10	10/12/2010	SV	1010052
200.8	Vanadium	< 20.0	U	ug/L	10.0	10	10/12/2010	SV	1010052
2340B	**Hardness**	**456**		mg/L	2	1	10/11/2010	SW	1010050

4/4/11
KsA

Project Name: Upper Animas - Rush Water - Oct 2010 **Certificate of Analysis**

TDF #: DG-214

Metals (Dissolved) by EPA 200/7000 Series Methods

Station ID: UASW003 **Date / Time Sampled:** 10/08/10 00:00 **Workorder:** C101004
EPA Tag No.: **Matrix:** Water **Lab Number:** C101004-04 A

Method	Parameter	Results	Qualifier	Units	MDL	Dilution Factor	Analyzed	By	Batch
200.7	**Aluminum**	**75.3**		ug/L	20.0	1	10/11/2010	SW	1010050
200.7	**Barium**	**25.5**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	Beryllium	< 5.00	U	ug/L	2.00	1	10/11/2010	SW	1010050
200.7	**Calcium**	**49500**		ug/L	100	1	10/11/2010	SW	1010050
200.7	**Copper**	**3.69**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	Iron	< 250	U	ug/L	100	1	10/11/2010	SW	1010050
200.7	**Magnesium**	**3190**		ug/L	100	1	10/11/2010	SW	1010050
200.7	**Manganese**	**1480**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	**Potassium**	**639**	J	ug/L	250	1	10/11/2010	SW	1010050
200.7	**Sodium**	**2280**		ug/L	250	1	10/11/2010	SW	1010050
200.7	**Strontium**	**509**		ug/L	2.00	1	10/11/2010	SW	1010050
200.7	Thallium	< 50.0	U	ug/L	20.0	1	10/11/2010	SW	1010050
200.7	Titanium	< 20.0	U	ug/L	5.00	1	10/11/2010	SW	1010050
200.7	**Zinc**	**338**		ug/L	10.0	1	10/11/2010	SW	1010050
200.8	Antimony	< 5.00	U	ug/L	2.50	5	10/12/2010	SV	1010052
200.8	Arsenic	< 10.0	U	ug/L	2.50	5	10/12/2010	SV	1010052
200.8	**Cadmium**	**0.640**	J	ug/L	0.500	5	10/12/2010	SV	1010052
200.8	Chromium	< 5.00	U	ug/L	2.50	5	10/12/2010	SV	1010052
200.8	Cobalt	< 1.00	U	ug/L	0.500	5	10/12/2010	SV	1010052
200.8	Lead	< 1.00	U	ug/L	0.500	5	10/12/2010	SV	1010052
200.8	**Molybdenum**	**0.984**	J	ug/L	0.500	5	10/12/2010	SV	1010052
200.8	Nickel	< 5.00	U	ug/L	2.50	5	10/12/2010	SV	1010052
200.8	Selenium	< 5.00	U	ug/L	2.50	5	10/12/2010	SV	1010052
200.8	Silver	< 2.50	U	ug/L	0.500	5	10/12/2010	SV	1010052
200.8	Vanadium	< 10.0	U	ug/L	5.00	5	10/12/2010	SV	1010052
2340B	**Hardness**	**137**		mg/L	2	1	10/11/2010	SW	1010050

"J" Qualifier indicates an estimated value

4/4/11
KSA

REGION VIII
DATA VALIDATION REPORT
ORGANICS

Case/TDD No.	Site Name		Operable Unit
40755 / 1008-16	Upper Animas Mining District		
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
ALS Laboratory Group	EPW05026	H35E5	

Review Assigned Date: November 23, 2010 Data Validator: Lesley Boyd
Review Completion Date: December 17, 2010 Report Reviewer: Fred Luck

Sample ID	Matrix	Analysis
H35E5	Sediment	CLP – Aroclors
H35E6		
H35E7		
H35E8		
H35E9		
H35F0		
H35F1		
H35F2		
H35F3		
H35F4		
H35F5		
H35F6		
H35F7		
H35F8		
H35F9		

Sample ID	Matrix	Analysis
H35G0	Sediment	CLP – Aroclors
H35G1		
H35G2		
H35G3		
H35G4		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X__ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," June 2008.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-15% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. H35E5, consisted of 20 sediment / mine sediment / soil samples for CLP Aroclor analyses by SOM01.2.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Aroclor Compound	Qualifier	Reason For Qualification	Review Section
H35G1	All compounds	UJ	Excessive moisture content in sample	12

1. HOLDING TIMES AND PRESERVATION

All holding times criteria were met.

AROCLOR: Yes_X_ No____

All preservation criteria were met.

AROCLOR: Yes___ No_X_

Comments: The soil samples were extracted within 14 days from sample collection and all extracts were analyzed within 40 days from sample extraction.

According to the Chain-of-Custody record and case narrative, the two sample coolers were each received at a temperature of 7°C, which is outside the recommended temperature range of 4 ± 2°C. When the sample preservation criteria are not met, but the sample analysis and extraction are within the technical holding times then professional judgment is used whether to qualify the data. No action was taken since the preservation exceedence was minimal and the extraction and holding times were well within the established parameters.

2. INITIAL INSTRUMENT CALIBRATIONS

The multi-component target compound analyses were performed according to method requirements:

AROCLOR: Yes_X_ No____

Comments: None.

Initial instrument calibrations were performed according to requirements and met the specified control limits listed in the functional guidelines.

AROCLOR: Yes_X_ No____

Comments: The Mean Retention Times (RTs) for each of the three to five major peaks and the RT of the surrogates have been determined. The RT Window has been calculated as ±0.07 for each of the three to five Aroclor peaks and ±0.05 and ±0.10 for the surrogates tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB), respectively.

At least one chromatogram from each of the Aroclor Standards yields peaks that give reflector deflections between 50-100% of full scale.

The concentrations of the five concentration level standards containing the Aroclors was prepared at the following concentrations 100, 200, 400, 800, and 1600 mg/mL and surrogates at 5.0, 10, 20, 40, and 80 ng/mL for TCX, and 10, 20, 40, 80, and 160 ng/mL for DCB.

The percent relative standard deviations (%RSDs) for the calibration peaks used to quantitate the Aroclors were within 20%. Summary forms and raw data were evaluated.

3. CONTINUING CALIBRATION VERIFICATION

Continuing instrument calibrations were performed according to requirements and met specified control limits listed in the functional guidelines.

AROCLOR: Yes_X_ No____

Comments: Continuing calibration standards were analyzed at the required frequency.

The %Ds were less than or equal to 15% for the opening Aroclor 1016/1260 standards. All %Ds for the closing Aroclor 1016/1260 standards were less than 50%.

No more than 14 hours elapsed from the injection of the instrument blank that begins an analytical sequence and the injection of the last mid-point concentration of the Aroclor Standards that ends an analytical sequence.

No more than 12 hours elapsed from the injection of the instrument blank that begins an analytical sequence and the injection of the last sample or blank that is part of an analytical sequence. Summary forms and raw data were evaluated.

4. BLANKS

The laboratory blank analysis was performed according to method requirements and met specified control limits.

AROCLOR: Yes_X_ No____

Comments: A Method blank was extracted along with the field samples at a rate of no more than 20 field samples per method blank and analyzed on the same GC/Electronic Capture Detector (GC/ECD) used for the field samples.

An acceptable instrument blank was run at the completion of the initial calibration sequence. Also an acceptable instrument blank was run at the beginning and ending of the analytical sequence for this sample delivery group.

A sulfur cleanup was not required; therefore a sulfur cleanup blank was not required for this sample delivery group.

5. SURROGATE SPIKES

Surrogate compound recovery analysis was performed according to method requirements and results met specified control limits.

AROCLOR: Yes_X_ No____

Comments: Two surrogate spikes, tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB), were added to all samples, including Matrix Spike / Matrix Spike Duplicate (MS/MSDs), Laboratory Control Samples (LCSs), and blanks.

The surrogate percent recoveries (%Rs) were all within the QC limits (30-150%) for all samples. Summary forms and raw data were evaluated.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATES (MS/MSDs)

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

AROCLOR: Yes____ No_X_

Comments: MS/MSD analyses were performed on sample H35G4. The percent recoveries for the Aroclor MS/MSD analyses were within QC limits, however the relative percent differences (RPDs) for the Aroclor MS/MSD analyses were all outside of QC limits. Since the percent recoveries for all of the samples were well within limits and none of the target compounds were detected in any of the field samples no qualification of the data was made. Summary forms and raw data were evaluated.

7. LABORATORY CONTROL SAMPLE (LCS)

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent). The percent recoveries for the LCS analyses were within QC limits. Summary forms and raw data were evaluated.

AROCLOR: Yes_X_ No____

Comments: None.

8. REGIONAL QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC)

Regional QA/QC was conducted as initiated by the EPA Region 8.

AROCLOR: Yes___ No_X

Comments: The SDG shows no indication of EPA Region 8 initiating any additional QA / QC.

9. GEL PERMEATION CHROMATOGRAPHY (GPC) PERFORMANCE CHECK

The gel permeation chromatography (GPC) check was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes_X_ No____

Comments: The GPC calibration appears acceptable based upon review of the two.

10. TARGET COMPOUND IDENTIFICATION

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

AROCLOR: Yes_X_ No____

Comments: No problems with the identification of the sample results were found. All retention times were met for the detected results.

None of the target analyses were identified in any of the samples. The sample extract was not diluted for any of the samples.

11. GAS CHROMATOGRAPH / MASS SPECTROMETOR (GC/MS) CONFIRMATION

GC Confirmation of detected Aroclors has been confirmed.

AROCLOR: Yes___ No_X_

Comments: No targeted Aroclors were detected in any of the field samples; therefore GC/MS confirmation is not required.

12. COMPOUND QUANTITATION AND REPORTED CONTRACT REQUIRED QUANTITATION LIMITS (CRQLs)

The reported quantitative limits and CRQLs are accurate and unqualified

AROCLOR: Yes___ No_X_

Comments: Compound quantitations, as well as CRQLs were adjusted according to the equations provided in the method.

The percent moisture for sample H35G1 was determined to be 73%, which exceeds the 70.0% level, but is less than 90%. The results for this sample are therefore to be qualified as UJ for each of the target analytes.

13. OTHER COMMENTS NOT ADDRESSED ELSEWHERE

1) Page 1 of the Evidence Audit Checklist (EAC) indicates three airbills are associated with this SDG, however documentation is only provided for Airbill Number 3430, which documents the shipment of four packages. The laboratory only documented receipt of two coolers, so it is unclear as to what the other two packages were that were included on the airbill.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35E5

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764001

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A031,19101109B031

% Moisture: 46. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	61.	U
11104-28-2	Aroclor-1221	61.	U
11141-16-5	Aroclor-1232	61.	U
53469-21-9	Aroclor-1242	61.	U
12672-29-6	Aroclor-1248	61.	U
11097-69-1	Aroclor-1254	61.	U
11096-82-5	Aroclor-1260	61.	U
37324-23-5	Aroclor-1262	61.	U
11100-14-4	Aroclor-1268	61.	U

KsA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35E6

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764002

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A032,19101109B032

% Moisture: 16. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	39.	U
11104-28-2	Aroclor-1221	39.	U
11141-16-5	Aroclor-1232	39.	U
53469-21-9	Aroclor-1242	39.	U
12672-29-6	Aroclor-1248	39.	U
11097-69-1	Aroclor-1254	39.	U
11096-82-5	Aroclor-1260	39.	U
37324-23-5	Aroclor-1262	39.	U
11100-14-4	Aroclor-1268	39.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35E7

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764003

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A033,19101109B033

% Moisture: 20. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	41.	U
11104-28-2	Aroclor-1221	41.	U
11141-16-5	Aroclor-1232	41.	U
53469-21-9	Aroclor-1242	41.	U
12672-29-6	Aroclor-1248	41.	U
11097-69-1	Aroclor-1254	41.	U
11096-82-5	Aroclor-1260	41.	U
37324-23-5	Aroclor-1262	41.	U
11100-14-4	Aroclor-1268	41.	U

KsA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35E8

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764004

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A034,19101109B034

% Moisture: 33. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	49.	U
11104-28-2	Aroclor-1221	49.	U
11141-16-5	Aroclor-1232	49.	U
53469-21-9	Aroclor-1242	49.	U
12672-29-6	Aroclor-1248	49.	U
11097-69-1	Aroclor-1254	49.	U
11096-82-5	Aroclor-1260	49.	U
37324-23-5	Aroclor-1262	49.	U
11100-14-4	Aroclor-1268	49.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35E9

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764005

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A035,19101109B035

% Moisture: 37. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	53.	U
11104-28-2	Aroclor-1221	53.	U
11141-16-5	Aroclor-1232	53.	U
53469-21-9	Aroclor-1242	53.	U
12672-29-6	Aroclor-1248	53.	U
11097-69-1	Aroclor-1254	53.	U
11096-82-5	Aroclor-1260	53.	U
37324-23-5	Aroclor-1262	53.	U
11100-14-4	Aroclor-1268	53.	U

KsA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F0

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764006

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A036,19101109B036

% Moisture: 27. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	46.	U
11104-28-2	Aroclor-1221	46.	U
11141-16-5	Aroclor-1232	46.	U
53469-21-9	Aroclor-1242	46.	U
12672-29-6	Aroclor-1248	46.	U
11097-69-1	Aroclor-1254	46.	U
11096-82-5	Aroclor-1260	46.	U
37324-23-5	Aroclor-1262	46.	U
11100-14-4	Aroclor-1268	46.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F1

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764007

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A037,19101109B037

% Moisture: 23. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	43.	U
11104-28-2	Aroclor-1221	43.	U
11141-16-5	Aroclor-1232	43.	U
53469-21-9	Aroclor-1242	43.	U
12672-29-6	Aroclor-1248	43.	U
11097-69-1	Aroclor-1254	43.	U
11096-82-5	Aroclor-1260	43.	U
37324-23-5	Aroclor-1262	43.	U
11100-14-4	Aroclor-1268	43.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F2

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764008

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A038,19101109B038

% Moisture: 17. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	40.	U
11104-28-2	Aroclor-1221	40.	U
11141-16-5	Aroclor-1232	40.	U
53469-21-9	Aroclor-1242	40.	U
12672-29-6	Aroclor-1248	40.	U
11097-69-1	Aroclor-1254	40.	U
11096-82-5	Aroclor-1260	40.	U
37324-23-5	Aroclor-1262	40.	U
11100-14-4	Aroclor-1268	40.	U

KgA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F3

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764009

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A039,19101109B039

% Moisture: 24. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	43.	U
11104-28-2	Aroclor-1221	43.	U
11141-16-5	Aroclor-1232	43.	U
53469-21-9	Aroclor-1242	43.	U
12672-29-6	Aroclor-1248	43.	U
11097-69-1	Aroclor-1254	43.	U
11096-82-5	Aroclor-1260	43.	U
37324-23-5	Aroclor-1262	43.	U
11100-14-4	Aroclor-1268	43.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F4

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764010

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A040,19101109B040

% Moisture: 25. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	44.	U
11104-28-2	Aroclor-1221	44.	U
11141-16-5	Aroclor-1232	44.	U
53469-21-9	Aroclor-1242	44.	U
12672-29-6	Aroclor-1248	44.	U
11097-69-1	Aroclor-1254	44.	U
11096-82-5	Aroclor-1260	44.	U
37324-23-5	Aroclor-1262	44.	U
11100-14-4	Aroclor-1268	44.	U

KA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F5

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764011

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A041,19101109B041

% Moisture: 26. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	45.	U
11104-28-2	Aroclor-1221	45.	U
11141-16-5	Aroclor-1232	45.	U
53469-21-9	Aroclor-1242	45.	U
12672-29-6	Aroclor-1248	45.	U
11097-69-1	Aroclor-1254	45.	U
11096-82-5	Aroclor-1260	45.	U
37324-23-5	Aroclor-1262	45.	U
11100-14-4	Aroclor-1268	45.	U

KsA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F6

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764012

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A042,19101109B042

% Moisture: 28. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	46.	U
11104-28-2	Aroclor-1221	46.	U
11141-16-5	Aroclor-1232	46.	U
53469-21-9	Aroclor-1242	46.	U
12672-29-6	Aroclor-1248	46.	U
11097-69-1	Aroclor-1254	46.	U
11096-82-5	Aroclor-1260	46.	U
37324-23-5	Aroclor-1262	46.	U
11100-14-4	Aroclor-1268	46.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F7

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764013

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A043,19101109B043

% Moisture: 41. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	56.	U
11104-28-2	Aroclor-1221	56.	U
11141-16-5	Aroclor-1232	56.	U
53469-21-9	Aroclor-1242	56.	U
12672-29-6	Aroclor-1248	56.	U
11097-69-1	Aroclor-1254	56.	U
11096-82-5	Aroclor-1260	56.	U
37324-23-5	Aroclor-1262	56.	U
11100-14-4	Aroclor-1268	56.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F8

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764014

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A044,19101109B044

% Moisture: 41. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	56.	U
11104-28-2	Aroclor-1221	56.	U
11141-16-5	Aroclor-1232	56.	U
53469-21-9	Aroclor-1242	56.	U
12672-29-6	Aroclor-1248	56.	U
11097-69-1	Aroclor-1254	56.	U
11096-82-5	Aroclor-1260	56.	U
37324-23-5	Aroclor-1262	56.	U
11100-14-4	Aroclor-1268	56.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F9

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764015

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A045,19101109B045

% Moisture: 28. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	46.	U
11104-28-2	Aroclor-1221	46.	U
11141-16-5	Aroclor-1232	46.	U
53469-21-9	Aroclor-1242	46.	U
12672-29-6	Aroclor-1248	46.	U
11097-69-1	Aroclor-1254	46.	U
11096-82-5	Aroclor-1260	46.	U
37324-23-5	Aroclor-1262	46.	U
11100-14-4	Aroclor-1268	46.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G0

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764016

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A046,19101109B046

% Moisture: 23. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	43.	U
11104-28-2	Aroclor-1221	43.	U
11141-16-5	Aroclor-1232	43.	U
53469-21-9	Aroclor-1242	43.	U
12672-29-6	Aroclor-1248	43.	U
11097-69-1	Aroclor-1254	43.	U
11096-82-5	Aroclor-1260	43.	U
37324-23-5	Aroclor-1262	43.	U
11100-14-4	Aroclor-1268	43.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G1

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764017

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A047,19101109B047

% Moisture: 73. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
12674-11-2	Aroclor-1016	120	U	UJ
11104-28-2	Aroclor-1221	120	U	UJ
11141-16-5	Aroclor-1232	120	U	UJ
53469-21-9	Aroclor-1242	120	U	UJ
12672-29-6	Aroclor-1248	120	U	UJ
11097-69-1	Aroclor-1254	120	U	UJ
11096-82-5	Aroclor-1260	120	U	UJ
37324-23-5	Aroclor-1262	120	U	UJ
11100-14-4	Aroclor-1268	120	U	UJ

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G2

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764018

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A048,19101109B048

% Moisture: 36. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	51.	U
11104-28-2	Aroclor-1221	51.	U
11141-16-5	Aroclor-1232	51.	U
53469-21-9	Aroclor-1242	51.	U
12672-29-6	Aroclor-1248	51.	U
11097-69-1	Aroclor-1254	51.	U
11096-82-5	Aroclor-1260	51.	U
37324-23-5	Aroclor-1262	51.	U
11100-14-4	Aroclor-1268	51.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G3

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764019

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A049,19101109B049

% Moisture: 19. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	41.	U
11104-28-2	Aroclor-1221	41.	U
11141-16-5	Aroclor-1232	41.	U
53469-21-9	Aroclor-1242	41.	U
12672-29-6	Aroclor-1248	41.	U
11097-69-1	Aroclor-1254	41.	U
11096-82-5	Aroclor-1260	41.	U
37324-23-5	Aroclor-1262	41.	U
11100-14-4	Aroclor-1268	41.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G4

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764020

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A050,19101109B050

% Moisture: 27. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	45.	U
11104-28-2	Aroclor-1221	45.	U
11141-16-5	Aroclor-1232	45.	U
53469-21-9	Aroclor-1242	45.	U
12672-29-6	Aroclor-1248	45.	U
11097-69-1	Aroclor-1254	45.	U
11096-82-5	Aroclor-1260	45.	U
37324-23-5	Aroclor-1262	45.	U
11100-14-4	Aroclor-1268	45.	U

KSA
1/10/11

REGION VIII
DATA VALIDATION REPORT
ORGANICS

Case/TDD No.	Site Name		Operable Unit
40755 / 1008-16	Upper Animas Mining District		
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
ALS Laboratory Group	EPW05026	H35G5	

Review Assigned Date: November 23, 2010 Data Validator: Fred Luck
Review Completion Date: December 2, 2010 Report Reviewer: Lesley Boyd

Sample ID	Matrix	Analysis
H35G5	Sediment	CLP – Aroclors
H35G6		
H35G7		
H35G8		
H35G9		
H35H0		
H35H1		
H35H2		
H35H3		
H35H4		
H35H5		
H35H6		
H35H8	Mine Sediment	
H35H9		
H35J0	Sediment	

Sample ID	Matrix	Analysis
H35J2	Mine Sediment	CLP – Aroclors
H35J3	Sediment	
H35J4	Soil - Surface	
H35J5		
H35J6		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X__ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," June 2008.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-15% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. H35G5, consisted of 20 sediment / mine sediment / soil samples for CLP Aroclor analyses by SOM01.2.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Aroclor Compound	Qualifier	Reason For Qualification	Review Section
H35J3	All compounds	UJ	Excessive moisture content in sample	12

1. HOLDING TIMES AND PRESERVATION

All holding times criteria were met.

AROCLOR: Yes_X_ No____

All preservation criteria were met.

AROCLOR: Yes___ No_X_

Comments: The soil samples were extracted within 14 days from sample collection and all extracts were analyzed within 40 days from sample extraction.

According to the Chain-of-Custody record and case narrative, the two sample coolers were each received at a temperature of 7°C, which is outside the recommended temperature range of 4 ± 2°C. When the sample preservation criteria are not met, but the sample analysis and extraction are within the technical holding times then professional judgment is used whether to qualify the data. No action was taken since the preservation exceedence was minimal and the extraction and holding times were well within the established parameters.

2. INITIAL INSTRUMENT CALIBRATIONS

The multi-component target compound analyses were performed according to method requirements:

AROCLOR: Yes_X_ No____

Comments: None.

Initial instrument calibrations were performed according to requirements and met the specified control limits listed in the functional guidelines.

AROCLOR: Yes_X_ No____

Comments: The Mean Retention Times (RTs) for each of the three to five major peaks and the RT of the surrogates have been determined. The RT Window has been calculated as ±0.07 for each of the three to five Aroclor peaks and ±0.05 and ±0.10 for the surrogates tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB), respectively.

At least one chromatogram from each of the Aroclor Standards yields peaks that give reflector deflections between 50-100% of full scale.

The concentrations of the five concentration level standards containing the Aroclors was prepared at the following concentrations 100, 200, 400, 800, and 1600 mg/mL and surrogates at 5.0, 10, 20, 40, and 80 ng/mL for TCX, and 10, 20, 40, 80, and 160 ng/mL for DCB.

The percent relative standard deviations (%RSDs) for the calibration peaks used to quantitate the Aroclors were within 20%. Summary forms and raw data were evaluated.

3. CONTINUING CALIBRATION VERIFICATION

Continuing instrument calibrations were performed according to requirements and met specified control limits listed in the functional guidelines.

AROCLOR: Yes_X_ No____

Comments: Continuing calibration standards were analyzed at the required frequency.

The %Ds were less than or equal to 15% for the opening Aroclor 1016/1260 standards. All %Ds for the closing Aroclor 1016/1260 standards were less than 50%.

No more than 14 hours elapsed from the injection of the instrument blank that begins an analytical sequence and the injection of the last mid-point concentration of the Aroclor Standards that ends an analytical sequence.

No more than 12 hours elapsed from the injection of the instrument blank that begins an analytical sequence and the injection of the last sample or blank that is part of an analytical sequence. Summary forms and raw data were evaluated.

4. BLANKS

The laboratory blank analysis was performed according to method requirements and met specified control limits.

AROCLOR: Yes_X_ No____

Comments: A Method blank was extracted along with the field samples at a rate of no more than 20 field samples per method blank and analyzed on the same GC/Electronic Capture Detector (GC/ECD) used for the field samples.

An acceptable instrument blank was run at the completion of the initial calibration sequence. Also an acceptable instrument blank was run at the beginning and ending of the analytical sequence for this sample delivery group.

A sulfur cleanup was not required; therefore a sulfur cleanup blank was not required for this sample delivery group.

5. SURROGATE SPIKES

Surrogate compound recovery analysis was performed according to method requirements and results met specified control limits.

AROCLOR: Yes_X_ No____

Comments: Two surrogate spikes, tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB), were added to all samples, including Matrix Spike / Matrix Spike Duplicate (MS/MSDs), Laboratory Control Samples (LCSs), and blanks.

The surrogate percent recoveries (%Rs) were all within the QC limits (30-150%) for all samples. Summary forms and raw data were evaluated.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATES (MS/MSDs)

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

AROCLOR: Yes_X_ No____

Comments: MS/MSD analyses were performed on sample H35G6. The percent recoveries and relative percent differences (RPDs) for the Aroclor MS/MSD analyses were within QC limits. Summary forms and raw data were evaluated.

7. LABORATORY CONTROL SAMPLE (LCS)

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent). The percent recoveries for the LCS analyses were within QC limits. Summary forms and raw data were evaluated.

AROCLOR: Yes_X_ No____

Comments: None.

8. REGIONAL QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC)

Regional QA/QC was conducted as initiated by the EPA Region 8.

AROCLOR: Yes___ No_X

Comments: The SDG shows no indication of EPA Region 8 initiating any additional QA / QC.

9. GEL PERMEATION CHROMATOGRAPHY (GPC) PERFORMANCE CHECK

The gel permeation chromatography (GPC) check was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes_X_ No____

Comments: The GPC calibration appears acceptable based upon review of the two.

10. TARGET COMPOUND IDENTIFICATION

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

AROCLOR: Yes_X_ No____

Comments: No problems with the identification of the sample results were found. All retention times were met for the detected results.

None of the target analyses were identified in any of the samples. The sample extract was not diluted for any of the samples.

11. GAS CHROMATOGRAPH / MASS SPECTROMETOR (GC/MS) CONFIRMATION

GC Confirmation of detected Aroclors has been confirmed

AROCLOR: Yes___ No_X_

Comments: No targeted Aroclors were detected in any of the field samples; therefore GC/MS confirmation is not required.

12. COMPOUND QUANTITATION AND REPORTED CONTRACT REQUIRED QUANTITATION LIMITS (CRQLs)

The reported quantitative limits and CRQLs are accurate and unqualified

AROCLOR: Yes___ No_X_

Comments: Compound quantitations, as well as CRQLs were adjusted according to the equations provided in the method.

The percent moisture for sample H35J3 was determined to be 81%, which exceeds the 70.0% level, but is less than 90%. The results for this sample are therefore to be qualified as UJ for each of the target analytes.

13. OTHER COMMENTS NOT ADDRESSED ELSEWHERE

1) An unnumbered page was located immediately following page 75. This is the first chromatogram for sample H35J6.
2) Page 1 of the Evidence Audit Checklist (EAC) indicates three airbills are associated with this SDG, however documentation is only provided for Airbill Number 3430, which documents the shipment of four packages. The laboratory only documented receipt of two coolers, so it is unclear as to what the other two packages were that were included on the airbill.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G5

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765001

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A028,31101109B028

% Moisture: 17. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	40.	U
11104-28-2	Aroclor-1221	40.	U
11141-16-5	Aroclor-1232	40.	U
53469-21-9	Aroclor-1242	40.	U
12672-29-6	Aroclor-1248	40.	U
11097-69-1	Aroclor-1254	40.	U
11096-82-5	Aroclor-1260	40.	U
37324-23-5	Aroclor-1262	40.	U
11100-14-4	Aroclor-1268	40.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G6

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765002

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A029,31101109B029

% Moisture: 27. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	45.	U
11104-28-2	Aroclor-1221	45.	U
11141-16-5	Aroclor-1232	45.	U
53469-21-9	Aroclor-1242	45.	U
12672-29-6	Aroclor-1248	45.	U
11097-69-1	Aroclor-1254	45.	U
11096-82-5	Aroclor-1260	45.	U
37324-23-5	Aroclor-1262	45.	U
11100-14-4	Aroclor-1268	45.	U

KsA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G7

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765005

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A032,31101109B032

% Moisture: 62. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	87.	U
11104-28-2	Aroclor-1221	87.	U
11141-16-5	Aroclor-1232	87.	U
53469-21-9	Aroclor-1242	87.	U
12672-29-6	Aroclor-1248	87.	U
11097-69-1	Aroclor-1254	87.	U
11096-82-5	Aroclor-1260	87.	U
37324-23-5	Aroclor-1262	87.	U
11100-14-4	Aroclor-1268	87.	U

K3A
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G8

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765006

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A033,31101109B033

% Moisture: 22. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	42.	U
11104-28-2	Aroclor-1221	42.	U
11141-16-5	Aroclor-1232	42.	U
53469-21-9	Aroclor-1242	42.	U
12672-29-6	Aroclor-1248	42.	U
11097-69-1	Aroclor-1254	42.	U
11096-82-5	Aroclor-1260	42.	U
37324-23-5	Aroclor-1262	42.	U
11100-14-4	Aroclor-1268	42.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G9

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765007

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A034,31101109B034

% Moisture: 55. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	74.	U
11104-28-2	Aroclor-1221	74.	U
11141-16-5	Aroclor-1232	74.	U
53469-21-9	Aroclor-1242	74.	U
12672-29-6	Aroclor-1248	74.	U
11097-69-1	Aroclor-1254	74.	U
11096-82-5	Aroclor-1260	74.	U
37324-23-5	Aroclor-1262	74.	U
11100-14-4	Aroclor-1268	74.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H0

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765008

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A035,31101109B035

% Moisture: 44. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	58.	U
11104-28-2	Aroclor-1221	58.	U
11141-16-5	Aroclor-1232	58.	U
53469-21-9	Aroclor-1242	58.	U
12672-29-6	Aroclor-1248	58.	U
11097-69-1	Aroclor-1254	58.	U
11096-82-5	Aroclor-1260	58.	U
37324-23-5	Aroclor-1262	58.	U
11100-14-4	Aroclor-1268	58.	U

KsA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H1

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765009

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A036,31101109B036

% Moisture: 36. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	52.	U
11104-28-2	Aroclor-1221	52.	U
11141-16-5	Aroclor-1232	52.	U
53469-21-9	Aroclor-1242	52.	U
12672-29-6	Aroclor-1248	52.	U
11097-69-1	Aroclor-1254	52.	U
11096-82-5	Aroclor-1260	52.	U
37324-23-5	Aroclor-1262	52.	U
11100-14-4	Aroclor-1268	52.	U

KJA
1/10/11

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H2

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765010

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A037,31101109B037

% Moisture: 60. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	82.	U
11104-28-2	Aroclor-1221	82.	U
11141-16-5	Aroclor-1232	82.	U
53469-21-9	Aroclor-1242	82.	U
12672-29-6	Aroclor-1248	82.	U
11097-69-1	Aroclor-1254	82.	U
11096-82-5	Aroclor-1260	82.	U
37324-23-5	Aroclor-1262	82.	U
11100-14-4	Aroclor-1268	82.	U

KgA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H3

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765011

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A038,31101109B038

% Moisture: 24. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	44.	U
11104-28-2	Aroclor-1221	44.	U
11141-16-5	Aroclor-1232	44.	U
53469-21-9	Aroclor-1242	44.	U
12672-29-6	Aroclor-1248	44.	U
11097-69-1	Aroclor-1254	44.	U
11096-82-5	Aroclor-1260	44.	U
37324-23-5	Aroclor-1262	44.	U
11100-14-4	Aroclor-1268	44.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H4

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765012

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A039,31101109B039

% Moisture: 54. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	71.	U
11104-28-2	Aroclor-1221	71.	U
11141-16-5	Aroclor-1232	71.	U
53469-21-9	Aroclor-1242	71.	U
12672-29-6	Aroclor-1248	71.	U
11097-69-1	Aroclor-1254	71.	U
11096-82-5	Aroclor-1260	71.	U
37324-23-5	Aroclor-1262	71.	U
11100-14-4	Aroclor-1268	71.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H5

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765013

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A040,31101109B040

% Moisture: 45. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	60.	U
11104-28-2	Aroclor-1221	60.	U
11141-16-5	Aroclor-1232	60.	U
53469-21-9	Aroclor-1242	60.	U
12672-29-6	Aroclor-1248	60.	U
11097-69-1	Aroclor-1254	60.	U
11096-82-5	Aroclor-1260	60.	U
37324-23-5	Aroclor-1262	60.	U
11100-14-4	Aroclor-1268	60.	U

K3A
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H6

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765014

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A041,31101109B041

% Moisture: 52. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	69.	U
11104-28-2	Aroclor-1221	69.	U
11141-16-5	Aroclor-1232	69.	U
53469-21-9	Aroclor-1242	69.	U
12672-29-6	Aroclor-1248	69.	U
11097-69-1	Aroclor-1254	69.	U
11096-82-5	Aroclor-1260	69.	U
37324-23-5	Aroclor-1262	69.	U
11100-14-4	Aroclor-1268	69.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H8

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765015

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A042,31101109B042

% Moisture: 60. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	82.	U
11104-28-2	Aroclor-1221	82.	U
11141-16-5	Aroclor-1232	82.	U
53469-21-9	Aroclor-1242	82.	U
12672-29-6	Aroclor-1248	82.	U
11097-69-1	Aroclor-1254	82.	U
11096-82-5	Aroclor-1260	82.	U
37324-23-5	Aroclor-1262	82.	U
11100-14-4	Aroclor-1268	82.	U

K3A
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H9

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765016

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A043,31101109B043

% Moisture: 67. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	99.	U
11104-28-2	Aroclor-1221	99.	U
11141-16-5	Aroclor-1232	99.	U
53469-21-9	Aroclor-1242	99.	U
12672-29-6	Aroclor-1248	99.	U
11097-69-1	Aroclor-1254	99.	U
11096-82-5	Aroclor-1260	99.	U
37324-23-5	Aroclor-1262	99.	U
11100-14-4	Aroclor-1268	99.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J0

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765017

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A044,31101109B044

% Moisture: 21. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	42.	U
11104-28-2	Aroclor-1221	42.	U
11141-16-5	Aroclor-1232	42.	U
53469-21-9	Aroclor-1242	42.	U
12672-29-6	Aroclor-1248	42.	U
11097-69-1	Aroclor-1254	42.	U
11096-82-5	Aroclor-1260	42.	U
37324-23-5	Aroclor-1262	42.	U
11100-14-4	Aroclor-1268	42.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J2

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765018

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A045,31101109B045

% Moisture: 63. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	89.	U
11104-28-2	Aroclor-1221	89.	U
11141-16-5	Aroclor-1232	89.	U
53469-21-9	Aroclor-1242	89.	U
12672-29-6	Aroclor-1248	89.	U
11097-69-1	Aroclor-1254	89.	U
11096-82-5	Aroclor-1260	89.	U
37324-23-5	Aroclor-1262	89.	U
11100-14-4	Aroclor-1268	89.	U

KJA
1/10/11

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J3

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765019

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A046,31101109B046

% Moisture: 81. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
12674-11-2	Aroclor-1016	170	U	UJ
11104-28-2	Aroclor-1221	170	U	UJ
11141-16-5	Aroclor-1232	170	U	UJ
53469-21-9	Aroclor-1242	170	U	UJ
12672-29-6	Aroclor-1248	170	U	UJ
11097-69-1	Aroclor-1254	170	U	UJ
11096-82-5	Aroclor-1260	170	U	UJ
37324-23-5	Aroclor-1262	170	U	UJ
11100-14-4	Aroclor-1268	170	U	UJ

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J4

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765020

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A047,31101109B047

% Moisture: 15. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	39.	U
11104-28-2	Aroclor-1221	39.	U
11141-16-5	Aroclor-1232	39.	U
53469-21-9	Aroclor-1242	39.	U
12672-29-6	Aroclor-1248	39.	U
11097-69-1	Aroclor-1254	39.	U
11096-82-5	Aroclor-1260	39.	U
37324-23-5	Aroclor-1262	39.	U
11100-14-4	Aroclor-1268	39.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J5

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765021

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A048,31101109B048

% Moisture: 16. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	39.	U
11104-28-2	Aroclor-1221	39.	U
11141-16-5	Aroclor-1232	39.	U
53469-21-9	Aroclor-1242	39.	U
12672-29-6	Aroclor-1248	39.	U
11097-69-1	Aroclor-1254	39.	U
11096-82-5	Aroclor-1260	39.	U
37324-23-5	Aroclor-1262	39.	U
11100-14-4	Aroclor-1268	39.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J6

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765022

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A049,31101109B049

% Moisture: 35. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	51.	U
11104-28-2	Aroclor-1221	51.	U
11141-16-5	Aroclor-1232	51.	U
53469-21-9	Aroclor-1242	51.	U
12672-29-6	Aroclor-1248	51.	U
11097-69-1	Aroclor-1254	51.	U
11096-82-5	Aroclor-1260	51.	U
37324-23-5	Aroclor-1262	51.	U
11100-14-4	Aroclor-1268	51.	U

KJA
1/10/11

REGION VIII
DATA VALIDATION REPORT
ORGANICS

Case/TDD No.	Site Name		Operable Unit
40755 / 1008-16	Upper Animas Mining District		
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	Contract No.	SDG No.	Laboratory DPO/Region
ALS Laboratory Group	EPW05026	H35H7	

Review Assigned Date: November 23, 2010 Data Validator: Fred Luck
Review Completion Date: December 14, 2010 Report Reviewer: Lesley Struthers

Sample ID	Matrix	Analysis
H35H7	Sediment	CLP – Aroclors
H35J7	Soil - Surface	
H35J8		
H35J9		
H35K0		
H35K1		
H35K2		
H35K3		
H35K4		
H35K5		
H35K6		
H35K7		
H35K8	Sediment	
H35K9		
H35L0		
H35L1		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X__ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," June 2008.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-15% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. H35H7, consisted of 16 sediment / surface soil samples for CLP Aroclor analyses by SOM01.2.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Aroclor Compound	Qualifier	Reason For Qualification	Review Section
H35K9	All compounds	UJ	Excessive moisture content in sample	12

1. HOLDING TIMES AND PRESERVATION

All holding times criteria were met.

AROCLOR: Yes_X_ No____

All preservation criteria were met.

AROCLOR: Yes___ No_X_

Comments: The soil samples were extracted within 14 days from sample collection and all extracts were analyzed within 40 days from sample extraction.

According to the Chain-of-Custody record and case narrative, the two sample coolers were each received at a temperature of 7°C, which is outside the recommended temperature range of 4 ± 2°C. When the sample preservation criteria are not met, but the sample analysis and extraction are within the technical holding times then professional judgment is used whether to qualify the data. No action was taken since the preservation exceedence was minimal and the extraction and holding times were well within the established parameters.

2. INITIAL INSTRUMENT CALIBRATIONS

The multi-component target compound analyses were performed according to method requirements:

AROCLOR: Yes_X_ No____

Comments: None.

Initial instrument calibrations were performed according to requirements and met the specified control limits listed in the functional guidelines.

AROCLOR: Yes_X_ No____

Comments: The Mean Retention Times (RTs) for each of the three to five major peaks and the RT of the surrogates have been determined. The RT Window has been calculated as ±0.07 for each of the three to five Aroclor peaks and ±0.05 and ±0.10 for the surrogates tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB), respectively.

At least one chromatogram from each of the Aroclor Standards yields peaks that give reflector deflections between 50-100% of full scale.

The concentrations of the five concentration level standards containing the Aroclors was prepared at the following concentrations100, 200, 400, 800, and 1600 mg/mL and surrogates at 5.0, 10, 20, 40, and 80 ng/mL for TCX, and 10, 20, 40, 80, and 160 ng/mL for DCB.

The percent relative standard deviations (%RSDs) for the calibration peaks used to quantitate the Aroclors were within 20%. Summary forms and raw data were evaluated.

3. CONTINUING CALIBRATION VERIFICATION

Continuing instrument calibrations were performed according to requirements and met specified control limits listed in the functional guidelines.

AROCLOR: Yes_X_ No____

Comments: Continuing calibration standards were analyzed at the required frequency.

The %Ds were less than or equal to 15% for the opening Aroclor 1016/1260 standards. All %Ds for the closing Aroclor 1016/1260 standards were less than 50%.

No more than 14 hours elapsed from the injection of the instrument blank that begins an analytical sequence and the injection of the last mid-point concentration of the Aroclor Standards that ends an analytical sequence.

No more than 12 hours elapsed from the injection of the instrument blank that begins an analytical sequence and the injection of the last sample or blank that is part of an analytical sequence. Summary forms and raw data were evaluated.

4. BLANKS

The laboratory blank analysis was performed according to method requirements and met specified control limits.

AROCLOR: Yes_X_ No____

Comments: A Method blank was extracted along with the field samples at a rate of no more than 20 field samples per method blank and analyzed on the same GC/Electronic Capture Detector (GC/ECD) used for the field samples.

An acceptable instrument blank was run at the completion of the initial calibration sequence. Also an acceptable instrument blank was run at the beginning and ending of the analytical sequence for this sample delivery group.

A sulfur cleanup was not required; therefore a sulfur cleanup blank was not required for this sample delivery group.

5. SURROGATE SPIKES

Surrogate compound recovery analysis was performed according to method requirements and results met specified control limits.

AROCLOR: Yes_X_ No____

Comments: Two surrogate spikes, tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB), were added to all samples, including Matrix Spike / Matrix Spike Duplicate (MS/MSDs), Laboratory Control Samples (LCSs), and blanks.

The surrogate percent recoveries (%Rs) were all within the QC limits (30-150%) for all samples. Summary forms and raw data were evaluated.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATES (MS/MSDs)

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

AROCLOR: Yes_X_ No____

Comments: MS/MSD analyses were performed on sample H35H7. The percent recoveries and relative percent differences (RPDs) for the Aroclor MS/MSD analyses were within QC limits. Summary forms and raw data were evaluated.

7. LABORATORY CONTROL SAMPLE (LCS)

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent). The percent recoveries for the LCS analyses were within QC limits. Summary forms and raw data were evaluated.

AROCLOR: Yes_X_ No____

Comments: None.

8. REGIONAL QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC)

Regional QA/QC was conducted as initiated by the EPA Region 8.

AROCLOR: Yes___ No_X_

Comments: The SDG shows no indication of EPA Region 8 initiating any additional QA / QC.

9. GEL PERMEATION CHROMATOGRAPHY (GPC) PERFORMANCE CHECK

The gel permeation chromatography (GPC) check was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes_X_ No____

Comments: The GPC calibration appears acceptable based upon review of the two.

10. TARGET COMPOUND IDENTIFICATION

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

AROCLOR: Yes_X_ No____

Comments: No problems with the identification of the sample results were found. All retention times were met for the detected results.

The chromatograms do display the largest peak of any detected Aroclors at less than full scale. The sample extract was not diluted for any of the samples.

11. GAS CHROMATOGRAPH / MASS SPECTROMETOR (GC/MS) CONFIRMATION

GC Confirmation of detected Aroclors has been confirmed

AROCLOR: Yes___ No_X_

Comments: The on-column concentrations for each individual peak belonging to an Aroclor were reviewed for the raw data associated with each Form I ARO for the SDG. None of these raw concentrations equaled or exceeded 10 ng/µL, which equates to 10 µg/mL, therefore none of the on-column concentrations are adequate to necessitate approaching the Region to obtain permission to perform GC/MS confirmation.

12. COMPOUND QUANTITATION AND REPORTED CONTRACT REQUIRED QUANTITATION LIMITS (CRQLs)

The reported quantitative limits and CRQLs are accurate and unqualified

AROCLOR: Yes___ No_X_

Comments: Compound quantitations, as well as CRQLs were adjusted according to the equations provided in the method.

The percent moisture for sample H35K9 was determined to be 81%, which exceeds the 70.0% level, but is less than 90%. The results for this sample are therefore to be qualified as UJ for each of the target analytes.

13. OTHER COMMENTS NOT ADDRESSED ELSEWHERE

1) Page 1 of the Evidence Audit Checklist (EAC) indicates three airbills are associated with this SDG, however documentation is only provided for Airbill Number 3430, which documents the shipment of four packages. The laboratory only documented receipt of two coolers, so it is unclear as to what the other two packages were that were included on the airbill.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H7

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766001

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A035,20101108B035

% Moisture: 18. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	40.	U
11104-28-2	Aroclor-1221	40.	U
11141-16-5	Aroclor-1232	40.	U
53469-21-9	Aroclor-1242	40.	U
12672-29-6	Aroclor-1248	40.	U
11097-69-1	Aroclor-1254	40.	U
11096-82-5	Aroclor-1260	40.	U
37324-23-5	Aroclor-1262	40.	U
11100-14-4	Aroclor-1268	40.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J7

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766004

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A038,20101108B038

% Moisture: 35. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	51.	U
11104-28-2	Aroclor-1221	51.	U
11141-16-5	Aroclor-1232	51.	U
53469-21-9	Aroclor-1242	51.	U
12672-29-6	Aroclor-1248	51.	U
11097-69-1	Aroclor-1254	51.	U
11096-82-5	Aroclor-1260	51.	U
37324-23-5	Aroclor-1262	51.	U
11100-14-4	Aroclor-1268	51.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J8

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766005

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A039,20101108B039

% Moisture: 22. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.5 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	42.	U
11104-28-2	Aroclor-1221	42.	U
11141-16-5	Aroclor-1232	42.	U
53469-21-9	Aroclor-1242	42.	U
12672-29-6	Aroclor-1248	42.	U
11097-69-1	Aroclor-1254	42.	U
11096-82-5	Aroclor-1260	42.	U
37324-23-5	Aroclor-1262	42.	U
11100-14-4	Aroclor-1268	42.	U

KA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J9

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766006

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A040,20101108B040

% Moisture: 34. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	50.	U
11104-28-2	Aroclor-1221	50.	U
11141-16-5	Aroclor-1232	50.	U
53469-21-9	Aroclor-1242	50.	U
12672-29-6	Aroclor-1248	50.	U
11097-69-1	Aroclor-1254	50.	U
11096-82-5	Aroclor-1260	50.	U
37324-23-5	Aroclor-1262	50.	U
11100-14-4	Aroclor-1268	50.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K0

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766007

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A041,20101108B041

% Moisture: 4.5 Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	35.	U
11104-28-2	Aroclor-1221	35.	U
11141-16-5	Aroclor-1232	35.	U
53469-21-9	Aroclor-1242	35.	U
12672-29-6	Aroclor-1248	35.	U
11097-69-1	Aroclor-1254	35.	U
11096-82-5	Aroclor-1260	35.	U
37324-23-5	Aroclor-1262	35.	U
11100-14-4	Aroclor-1268	35.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K1

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766008

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A042,20101108B042

% Moisture: 12. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	38.	U
11104-28-2	Aroclor-1221	38.	U
11141-16-5	Aroclor-1232	38.	U
53469-21-9	Aroclor-1242	38.	U
12672-29-6	Aroclor-1248	38.	U
11097-69-1	Aroclor-1254	38.	U
11096-82-5	Aroclor-1260	38.	U
37324-23-5	Aroclor-1262	38.	U
11100-14-4	Aroclor-1268	38.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K2

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766009

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A043,20101108B043

% Moisture: 11. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	37.	U
11104-28-2	Aroclor-1221	37.	U
11141-16-5	Aroclor-1232	37.	U
53469-21-9	Aroclor-1242	37.	U
12672-29-6	Aroclor-1248	37.	U
11097-69-1	Aroclor-1254	37.	U
11096-82-5	Aroclor-1260	37.	U
37324-23-5	Aroclor-1262	37.	U
11100-14-4	Aroclor-1268	37.	U

KA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K3

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766010

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A044,20101108B044

% Moisture: 6.5 Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	35.	U
11104-28-2	Aroclor-1221	35.	U
11141-16-5	Aroclor-1232	35.	U
53469-21-9	Aroclor-1242	35.	U
12672-29-6	Aroclor-1248	12.	J
11097-69-1	Aroclor-1254	35.	U
11096-82-5	Aroclor-1260	35.	U
37324-23-5	Aroclor-1262	35.	U
11100-14-4	Aroclor-1268	35.	U

KsA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K4

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766011

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A045,20101108B045

% Moisture: 10. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	37.	U
11104-28-2	Aroclor-1221	37.	U
11141-16-5	Aroclor-1232	37.	U
53469-21-9	Aroclor-1242	37.	U
12672-29-6	Aroclor-1248	37.	U
11097-69-1	Aroclor-1254	37.	U
11096-82-5	Aroclor-1260	37.	U
37324-23-5	Aroclor-1262	37.	U
11100-14-4	Aroclor-1268	37.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K5

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766012

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A046,20101108B046

% Moisture: 6.6 Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	35.	U
11104-28-2	Aroclor-1221	35.	U
11141-16-5	Aroclor-1232	35.	U
53469-21-9	Aroclor-1242	35.	U
12672-29-6	Aroclor-1248	35.	U
11097-69-1	Aroclor-1254	35.	U
11096-82-5	Aroclor-1260	35.	U
37324-23-5	Aroclor-1262	35.	U
11100-14-4	Aroclor-1268	35.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K6

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766013

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A047,20101108B047

% Moisture: 9.6 Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	36.	U
11104-28-2	Aroclor-1221	36.	U
11141-16-5	Aroclor-1232	36.	U
53469-21-9	Aroclor-1242	36.	U
12672-29-6	Aroclor-1248	36.	U
11097-69-1	Aroclor-1254	36.	U
11096-82-5	Aroclor-1260	36.	U
37324-23-5	Aroclor-1262	36.	U
11100-14-4	Aroclor-1268	36.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K7

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766014

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A048,20101108B048

% Moisture: 16. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	39.	U
11104-28-2	Aroclor-1221	39.	U
11141-16-5	Aroclor-1232	39.	U
53469-21-9	Aroclor-1242	39.	U
12672-29-6	Aroclor-1248	39.	U
11097-69-1	Aroclor-1254	39.	U
11096-82-5	Aroclor-1260	39.	U
37324-23-5	Aroclor-1262	39.	U
11100-14-4	Aroclor-1268	39.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K8

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766015

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A049,20101108B049

% Moisture: 25. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.5 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	44.	U
11104-28-2	Aroclor-1221	44.	U
11141-16-5	Aroclor-1232	44.	U
53469-21-9	Aroclor-1242	44.	U
12672-29-6	Aroclor-1248	44.	U
11097-69-1	Aroclor-1254	44.	U
11096-82-5	Aroclor-1260	44.	U
37324-23-5	Aroclor-1262	44.	U
11100-14-4	Aroclor-1268	44.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K9

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766016

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A050,20101108B050

% Moisture: 80. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
12674-11-2	Aroclor-1016	160	U	UJ
11104-28-2	Aroclor-1221	160	U	UJ
11141-16-5	Aroclor-1232	160	U	UJ
53469-21-9	Aroclor-1242	160	U	UJ
12672-29-6	Aroclor-1248	160	U	UJ
11097-69-1	Aroclor-1254	160	U	UJ
11096-82-5	Aroclor-1260	160	U	UJ
37324-23-5	Aroclor-1262	160	U	UJ
11100-14-4	Aroclor-1268	160	U	UJ

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35L0

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766017

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A051,20101108B051

% Moisture: 19. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	41.	U
11104-28-2	Aroclor-1221	41.	U
11141-16-5	Aroclor-1232	41.	U
53469-21-9	Aroclor-1242	41.	U
12672-29-6	Aroclor-1248	41.	U
11097-69-1	Aroclor-1254	41.	U
11096-82-5	Aroclor-1260	41.	U
37324-23-5	Aroclor-1262	41.	U
11100-14-4	Aroclor-1268	41.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35L1

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766018

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A052,20101108B052

% Moisture: 19. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	41.	U
11104-28-2	Aroclor-1221	41.	U
11141-16-5	Aroclor-1232	41.	U
53469-21-9	Aroclor-1242	41.	U
12672-29-6	Aroclor-1248	41.	U
11097-69-1	Aroclor-1254	41.	U
11096-82-5	Aroclor-1260	41.	U
37324-23-5	Aroclor-1262	41.	U
11100-14-4	Aroclor-1268	41.	U

KSA
1/10/11

REGION VIII
DATA VALIDATION REPORT
ORGANICS

Case/TDD No.	Site Name		Operable Unit
40755 / 1008-16	Upper Animas Mining District		
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
ALS Laboratory Group	EPW05026	H36L0	

Review Assigned Date: November 23, 2010 Data Validator: Lesley Boyd
Review Completion Date: December 17, 2010 Report Reviewer: Fred Luck

Sample ID	Matrix	Analysis
H36L0	Sediment	CLP – Aroclors
H36L1		
H36L2		
H36L3		
H36L4		
H36L5		
H36L6		
H36L7		
H36L9		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X__ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," June 2008.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-15% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. H36L0, consisted of 9 sediment samples for CLP Aroclor analyses by SOM01.2.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Aroclor Compound	Qualifier	Reason For Qualification	Review Section
H36L5, H36L9	All compounds	UJ	Excessive moisture content in sample	12

1. HOLDING TIMES AND PRESERVATION

All holding times criteria were met.

AROCLOR: Yes_X_ No____

All preservation criteria were met.

AROCLOR: Yes___ No_X_

Comments: The soil samples were extracted within 14 days from sample collection and all extracts were analyzed within 40 days from sample extraction.

According to the Chain-of-Custody record and case narrative, the two sample coolers were each received at a temperature of 7°C, which is outside the recommended temperature range of 4 ± 2°C. When the sample preservation criteria are not met, but the sample analysis and extraction are within the technical holding times then professional judgment is used whether to qualify the data. No action was taken since the preservation exceedence was minimal and the extraction and holding times were well within the established parameters.

2. INITIAL INSTRUMENT CALIBRATIONS

The multi-component target compound analyses were performed according to method requirements:

AROCLOR: Yes_X_ No____

Comments: None.

Initial instrument calibrations were performed according to requirements and met the specified control limits listed in the functional guidelines.

AROCLOR: Yes_X_ No____

Comments: The Mean Retention Times (RTs) for each of the three to five major peaks and the RT of the surrogates have been determined. The RT Window has been calculated as ±0.07 for each of the three to five Aroclor peaks and ±0.05 and ±0.10 for the surrogates tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB), respectively.

At least one chromatogram from each of the Aroclor Standards yields peaks that give reflector deflections between 50-100% of full scale.

The concentrations of the five concentration level standards containing the Aroclors was prepared at the following concentrations 100, 200, 400, 800, and 1600 mg/mL and surrogates at 5.0, 10, 20, 40, and 80 ng/mL for TCX, and 10, 20, 40, 80, and 160 ng/mL for DCB.

The percent relative standard deviations (%RSDs) for the calibration peaks used to quantitate the Aroclors were within 20%. Summary forms and raw data were evaluated.

3. CONTINUING CALIBRATION VERIFICATION

Continuing instrument calibrations were performed according to requirements and met specified control limits listed in the functional guidelines.

AROCLOR: Yes_X_ No____

Comments: Continuing calibration standards were analyzed at the required frequency.

The %Ds were less than or equal to 15% for the opening Aroclor 1016/1260 standards. All %Ds for the closing Aroclor 1016/1260 standards were less than 50%.

No more than 14 hours elapsed from the injection of the instrument blank that begins an analytical sequence and the injection of the last mid-point concentration of the Aroclor Standards that ends an analytical sequence.

No more than 12 hours elapsed from the injection of the instrument blank that begins an analytical sequence and the injection of the last sample or blank that is part of an analytical sequence. Summary forms and raw data were evaluated.

4. BLANKS

The laboratory blank analysis was performed according to method requirements and met specified control limits.

AROCLOR: Yes_X_ No____

Comments: A Method blank was extracted along with the field samples at a rate of no more than 20 field samples per method blank and analyzed on the same GC/Electronic Capture Detector (GC/ECD) used for the field samples.

An acceptable instrument blank was run at the completion of the initial calibration sequence. Also an acceptable instrument blank was run at the beginning and ending of the analytical sequence for this sample delivery group.

A sulfur cleanup was not required; therefore a sulfur cleanup blank was not required for this sample delivery group.

5. SURROGATE SPIKES

Surrogate compound recovery analysis was performed according to method requirements and results met specified control limits.

AROCLOR: Yes_X_ No____

Comments: Two surrogate spikes, tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB), were added to all samples, including Matrix Spike / Matrix Spike Duplicate (MS/MSDs), Laboratory Control Samples (LCSs), and blanks.

The surrogate percent recoveries (%Rs) were all within the QC limits (30-150%) for all samples. Summary forms and raw data were evaluated.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATES (MS/MSDs)

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

AROCLOR: Yes_X_ No____

Comments: MS/MSD analyses were performed on sample H36L4. The percent recoveries and relative percent differences (RPDs) for the Aroclor MS/MSD analyses were within QC limits. Summary forms and raw data were evaluated.

7. LABORATORY CONTROL SAMPLE (LCS)

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent). The percent recoveries for the LCS analyses were within QC limits. Summary forms and raw data were evaluated.

AROCLOR: Yes_X_ No____

Comments: None.

8. REGIONAL QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC)

Regional QA/QC was conducted as initiated by the EPA Region 8.

AROCLOR: Yes___ No_X

Comments: The SDG shows no indication of EPA Region 8 initiating any additional QA / QC.

9. GEL PERMEATION CHROMATOGRAPHY (GPC) PERFORMANCE CHECK

The gel permeation chromatography (GPC) check was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes_X_ No____

Comments: The GPC calibration appears acceptable based upon review of the two.

10. TARGET COMPOUND IDENTIFICATION

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

AROCLOR: Yes_X_ No____

Comments: No problems with the identification of the sample results were found. All retention times were met for the detected results.

None of the target analyses were identified in any of the samples. The sample extract was not diluted for any of the samples.

11. GAS CHROMATOGRAPH / MASS SPECTROMETOR (GC/MS) CONFIRMATION

GC Confirmation of detected Aroclors has been confirmed

AROCLOR: Yes___ No_X_

Comments: No targeted Aroclors were detected in any of the field samples; therefore GC/MS confirmation is not required.

12. COMPOUND QUANTITATION AND REPORTED CONTRACT REQUIRED QUANTITATION LIMITS (CRQLs)

The reported quantitative limits and CRQLs are accurate and unqualified

AROCLOR: Yes___ No_X_

Comments: Compound quantitations, as well as CRQLs were adjusted according to the equations provided in the method.

The percent moisture for sample H36L5 was determined to be 74%, which exceeds the 70.0% level, but is less than 90%. The results for this sample are therefore to be qualified as UJ for each of the target analytes.

The percent moisture for sample H36L9 was determined to be 78%, which exceeds the 70.0% level, but is less than 90%. The results for this sample are therefore to be qualified as UJ for each of the target analytes.

13. OTHER COMMENTS NOT ADDRESSED ELSEWHERE

1) Page 1 of the Evidence Audit Checklist (EAC) indicates three airbills are associated with this SDG, however documentation is only provided for Airbill Number 3430, which documents the shipment of four packages. The laboratory only documented receipt of two coolers, so it is unclear as to what the other two packages were that were included on the airbill.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L0

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767001

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A031,19101112B031

% Moisture: 24. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	44.	U
11104-28-2	Aroclor-1221	44.	U
11141-16-5	Aroclor-1232	44.	U
53469-21-9	Aroclor-1242	44.	U
12672-29-6	Aroclor-1248	44.	U
11097-69-1	Aroclor-1254	44.	U
11096-82-5	Aroclor-1260	44.	U
37324-23-5	Aroclor-1262	44.	U
11100-14-4	Aroclor-1268	44.	U

KsA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L1

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767002

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A032,19101112B032

% Moisture: 25. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	44.	U
11104-28-2	Aroclor-1221	44.	U
11141-16-5	Aroclor-1232	44.	U
53469-21-9	Aroclor-1242	44.	U
12672-29-6	Aroclor-1248	44.	U
11097-69-1	Aroclor-1254	44.	U
11096-82-5	Aroclor-1260	44.	U
37324-23-5	Aroclor-1262	44.	U
11100-14-4	Aroclor-1268	44.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L2

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767003

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A033,19101112B033

% Moisture: 48. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.5 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	63.	U
11104-28-2	Aroclor-1221	63.	U
11141-16-5	Aroclor-1232	63.	U
53469-21-9	Aroclor-1242	63.	U
12672-29-6	Aroclor-1248	63.	U
11097-69-1	Aroclor-1254	63.	U
11096-82-5	Aroclor-1260	63.	U
37324-23-5	Aroclor-1262	63.	U
11100-14-4	Aroclor-1268	63.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L3

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767004

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A034,19101112B034

% Moisture: 20. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	41.	U
11104-28-2	Aroclor-1221	41.	U
11141-16-5	Aroclor-1232	41.	U
53469-21-9	Aroclor-1242	41.	U
12672-29-6	Aroclor-1248	41.	U
11097-69-1	Aroclor-1254	41.	U
11096-82-5	Aroclor-1260	41.	U
37324-23-5	Aroclor-1262	41.	U
11100-14-4	Aroclor-1268	41.	U

KsA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L4

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767005

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A035,19101112B035

% Moisture: 38. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	53.	U
11104-28-2	Aroclor-1221	53.	U
11141-16-5	Aroclor-1232	53.	U
53469-21-9	Aroclor-1242	53.	U
12672-29-6	Aroclor-1248	53.	U
11097-69-1	Aroclor-1254	53.	U
11096-82-5	Aroclor-1260	53.	U
37324-23-5	Aroclor-1262	53.	U
11100-14-4	Aroclor-1268	53.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L5

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767008

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A038,19101112B038

% Moisture: 74. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
12674-11-2	Aroclor-1016	120	U	UJ
11104-28-2	Aroclor-1221	120	U	UJ
11141-16-5	Aroclor-1232	120	U	UJ
53469-21-9	Aroclor-1242	120	U	UJ
12672-29-6	Aroclor-1248	120	U	UJ
11097-69-1	Aroclor-1254	120	U	UJ
11096-82-5	Aroclor-1260	120	U	UJ
37324-23-5	Aroclor-1262	120	U	UJ
11100-14-4	Aroclor-1268	120	U	UJ

KsA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L6

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767009

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A039,19101112B039

% Moisture: 49. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	65.	U
11104-28-2	Aroclor-1221	65.	U
11141-16-5	Aroclor-1232	65.	U
53469-21-9	Aroclor-1242	65.	U
12672-29-6	Aroclor-1248	65.	U
11097-69-1	Aroclor-1254	65.	U
11096-82-5	Aroclor-1260	65.	U
37324-23-5	Aroclor-1262	65.	U
11100-14-4	Aroclor-1268	65.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L7

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767010

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A040,19101112B040

% Moisture: 25. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	44.	U
11104-28-2	Aroclor-1221	44.	U
11141-16-5	Aroclor-1232	44.	U
53469-21-9	Aroclor-1242	44.	U
12672-29-6	Aroclor-1248	44.	U
11097-69-1	Aroclor-1254	44.	U
11096-82-5	Aroclor-1260	44.	U
37324-23-5	Aroclor-1262	44.	U
11100-14-4	Aroclor-1268	44.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L9

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767011

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A041,19101112B041

% Moisture: 78. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
12674-11-2	Aroclor-1016	150	U	UJ
11104-28-2	Aroclor-1221	150	U	UJ
11141-16-5	Aroclor-1232	150	U	UJ
53469-21-9	Aroclor-1242	150	U	UJ
12672-29-6	Aroclor-1248	150	U	UJ
11097-69-1	Aroclor-1254	150	U	UJ
11096-82-5	Aroclor-1260	150	U	UJ
37324-23-5	Aroclor-1262	150	U	UJ
11100-14-4	Aroclor-1268	150	U	UJ

KsA
1/10/11