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DATE: 27 February 2007

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SUBJECT: DOCUMENT TRANSMITTAL UNDER WORK ASSIGNMENT # 0-182

Attached please find the following document prepared under this work assignment:

Smokey Mountain Smelter - Analytical Report

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Central File WA # 0-182	(w/attachment

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ANALYTICAL REPORT

Prepared by
LOCKHEED MARTIN, Inc.

Smokey Mountain Smelter
Knoxville, TN

February 2007

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Table of Contents

Topic

Introduction
Case Narrative
Summary of Abbreviations

Section I

Results of the Analysis for Metals in Soil	Table 1.1
Results of the Analysis for Metals in Water	Table 1.2

Section II

Results of the MS/MSD Analysis for Metals in Soil	Table 2.1
Results of the MS/MSD Analysis for Metals in Water	Table 2.2
Results of the LCS Analysis for Metals in Soil	Table 2.3
Results of the LCS Analysis for Metals in Water	Table 2.4

Section III

Chains of Custody

Appendix A Data for Metals in Soil	S 011
Appendix B Data for Metals in Soil	S 010
Appendix C Data for Metals in Soil	S 009
Appendix D Data for Metals in Water	S 012

Appendices will be furnished on request.

Introduction

REAC in response to WA 0-182, provided analytical support for environmental samples collected from the Smokey Mountain Smelter Site, located outside Knoxville, TN as described in the following table. The support also included QA/QC, data review, and preparation of an analytical report containing a summary of the analytical and the QA/QC results.

The samples were treated with procedures consistent with those specified in SOP #1008.

COC #	Number of Samples	Sampling Date	Date Received	Matrix	Analysis/ Method	Laboratory	Data Package
182-121306-01	15	12/12/06	12/14/06	Soil	Metals / REAC SOP 1811/1832	REAC[1]	S 011
182-121306-02	5	12/12/06					S 010
	11	12/13/06					
182-121306-03	4	12/13/06	12/14/06				
	5						S 009
182-121406-04	10	12/14/06	12/15/06				
182-121506-09	3	12/15/06	12/16/06				
182-121406-07	8	12/14/06	12/15/06	Water			S 012
182-121506-08	3	12/15/06	12/16/06				
01959	1	12/14/06	12/15/06				

[1]REAC is NELAC certified for Metal Analysis.

Case Narrative

The laboratory reported the data to three significant figures. Any other representation of the data is the responsibility of the user. All data validation flags have been inserted into the results tables.

Metals in Soil Package S 011

The serial dilution for sample 182-0009 exceeded the acceptable QC criteria for potassium. The serial dilution for sample 182-0018 exceeded the acceptable QC criteria for cadmium and potassium. The following samples are estimated (J) for cadmium and potassium: 182-0003 through 182-0016 and 182-0018.

The MS/MSD percent recovery for sample 182-0009 exceeded the upper QC limits for chromium and the

lower QC limits for selenium and thallium. The MS/MSD RPD exceeded the criteria for chromium. The following samples are estimated high (J+) for chromium and estimated (J) for selenium and thallium: 182-0003 through 182-0016 and 182-0018.

The MS/MSD percent recovery for sample 182-0018 exceeded the upper QC limits for barium and the lower QC limits for chromium, selenium and thallium. The MS/MSD RPD exceeded the criteria for barium, chromium and thallium. The following samples are estimated high (J+) for barium: 182-0003 through 182-0016 and 182-0018. Chromium, selenium and thallium were previously qualified by the MS/MSD of 182-0009.

Metals in Soil Package S_010

The serial dilution for sample 182-0030 exceeded the acceptable QC criteria for potassium. The serial dilution for sample 182-0037 exceeded the acceptable QC criteria for cadmium, calcium, potassium and sodium. The following samples are estimated (J) for cadmium, calcium, potassium and sodium: 182-0020 through 182-0024 and 182-0026 through 182-0040.

The MS/MSD percent recovery for sample 182-0030 exceeded the acceptable QC limits for barium, chromium and lead and below the QC limits for vanadium and thallium. The MS/MSD RPD exceeded the criteria for barium, chromium, lead and mercury. The following samples are estimated high (J+) for barium, chromium and lead, estimated (J) for thallium and mercury and estimated low (J-) for vanadium for samples 182-0020 through 182-0024 and 182-0026 through 182-0040.

The MS/MSD percent recovery for sample 182-0037 was below the QC limits for thallium and antimony was not recovered. The following samples are estimated for antimony and thallium: 182-0020 through 182-0024 and 182-0026 through 182-0040

Metals in Soil Package S_009

For sample 182-0068 MS/MSD, the percent RPD for lead and nickel were outside the acceptable QC limits. The following sample results are estimated (J) for lead and nickel :182-0041 through 182-0045, 182-0047 through 182-0055, 182-0064, 182-0065 and 182-0068 through 182 -0070.

In samples 182-0047, 182-0049, 182-0050, 182-0052, and 182-0054 the potassium %D for the dilution analysis was outside the acceptable QC limits. The sample results for potassium are qualified (J).

In samples 182-0055 and 182-0069, the cadmium %D for the dilution analysis was outside the acceptable QC limits. The sample results for cadmium are qualified (J).

In samples 182-0048 and 182-0055 the sodium %D for the dilution analysis was outside the acceptable QC limits. The sample results for sodium are qualified (J).

In sample 182-0068 the cobalt %D for the dilution analysis was outside the acceptable QC limits. The sample results for cobalt is qualified (J).

The percent recovery for sample 182-0042 MS/MSD analysis exceeded acceptable QC limits for barium, selenium, and thallium. The following sample results are estimated (J) for selenium and thallium: 182-0041 through 182-0045, 182-0047 through 182-0055, 182-0064-0065 and 182-0068 through 182-0070. The following sample results are estimated (J+) barium: 182-0041 through 182-0045, 182-0047 through 182-0055, 182-0064-0065 and 182-0068 through 182-0070.

The percent recovery for sample 182-0068 MS/MSD analysis exceeded acceptable QC limits for lead, nickel, and thallium. The following sample results are estimated (J+) for lead: 182-0041 through 182-0045, 182-0047 through 182-0055, 182-0064-0068 and 182-0068 through 182-0070. For nickel no additional qualification was added since one recovery was low and one high and the nickel results are already estimated (J) for the RPD exceeding QC limits. The following sample results are estimated (J) for

thallium: 182-0041 through 182-0045, 182-0047 through 182-0055, 182-0064-0065 and 182-0068 through 182-0070.

Metals in Water Package S 012

The percent recovery and RPD for sample 182-0074 MS/MSD analysis was below the QC limits for silver. The following sample results are estimated (J) for silver: 182-0025, 182-0058 through 182-0063, 182-0067, 182-0073 through 182-0075 and 182-0077.

Summary of Abbreviations

BFB	Bromofluorobenzene
C	Centigrade
CLP	Contract Laboratory Program
COC	Chain of Custody
conc	concentration
cont	continued
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
D	(Surrogate Table) value is from a diluted sample and was not calculated
Dioxin	denotes Polychlorinated dibenzo-p-dioxins (PCDD) and Polychlorinated dibenzofurans (PCDF)
DFTPP	Decafluorotriphenylphosphine
EMPC	Estimated maximum possible concentration
GC/MS	Gas Chromatography/ Mass Spectrometry
IS	Internal Standard
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS (BS)	Matrix Spike (Blank Spike)
MSD (BSD)	Matrix Spike Duplicate (Blank Spike Duplicate)
MW	Molecular Weight
NA	Not Applicable or Not Available
NC	Not Calculated
NR	Not Requested
NS	Not Spiked
% D	Percent Difference
% REC	Percent Recovery
SOP	Standard Operating Procedure
ppbv	parts per billion volume
ppm	parts per million
pptv	parts per trillion volume
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
QL	Quantitation Limit
REAC	Response Engineering and Analytical Contract
RL	Reporting Limit
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
SIM	Selected Ion Monitoring
Sur	Surrogate
TIC	Tentatively Identified Compound
TCLP	Toxic Characteristics Leaching Procedure
VOC	Volatile Organic Compounds
*	Value exceeds the acceptable QC limits.

m^3	cubic meter	g	gram	kg	kilogram	L	liter
µg	microgram	µL	microliter	mg	milligram	ml	milliliter
ng	nanogram	pg	picogram				

Data Validation Flags

J	Value or Reporting limit is estimated
J+	Value is estimated high (metals only)
J-	Value is estimated low (metals only)
R	Value is unusable
U	Not detected
UJ	Not detected and reporting limit estimated

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Section I

Table 1.1 Results of the Analysis for Metals in Soil
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Method REAC SOP 1811/1832

Sample No.	Method Blank-121506		182-0003		182-0004		182-0005		182-0006		182-0007	
Location	Lab		SB-1 0-5		SB-1 7-8		SB-1 ~~0-5~~ 10-15		SB-2 0-5		SB-2 5-10	
% Solids	100		74		71		80		73		71	
Analyte	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg
Aluminum	U	20.0	163000	116	188000	117	71000	109	184000	119	174000	121
Antimony	U	1.40	U	8.15	U	8.22	U	1.52	U	1.67	U	1.70
Arsenic	U	1.50	U	1.75	2.23	1.76	U	1.63	2.93	1.79	2.15	1.82
Barium	U	0.400	107 J+	0.466	411 J+	0.469	60.9 J+	0.435	108 J+	0.476	76.1 J+	0.486
Beryllium	U	0.300	0.741	0.349	1.30	0.352	4.59	0.326	3.68	0.357	2.84	0.364
Cadmium	U	0.400	U J	0.466	U J	0.469	0.495 J	0.435	2.24 J	0.476	1.16 J	0.486
Calcium	U	9.90	9360	11.5	10500	11.6	29100	10.8	35300	11.8	14900	12.0
Chromium	U	0.500	112 J+	0.582	132 J+	0.587	40.9 J+	0.543	171 J+	0.596	127 J+	0.607
Cobalt	U	0.400	5.60	0.466	6.80	0.469	3.26	2.17	8.34	0.476	12.4	0.486
Copper	U	0.400	1900	0.466	2980	0.469	314	0.435	1600	0.476	929	0.486
Iron	U	15.0	6610	17.5	6780	17.6	5560	16.3	11200	17.9	7990	18.2
Lead	U	1.00	28.3	1.16	69.4	1.17	14.6	1.09	106	1.19	135	1.21
Magnesium	U	20.0	6290	23.3	9670	23.5	11000	21.7	19400	23.8	14200	24.3
Manganese	U	0.400	538	0.466	652	0.469	471	0.435	766	0.476	517	0.486
Mercury	U	0.040	U	0.045	U	0.045	U	0.041	0.272	0.044	0.0592	0.047
Nickel	U	0.600	130	0.699	339	0.704	54.2	0.652	349	0.715	200	0.729
Potassium	U	25.0	598 J	146	622 J	147	1190 J	136	783 J	149	738 J	152
Selenium	U	1.30	U J	1.51	U J	1.53	U J	1.41	U J	1.55	U J	1.58
Silver	U	0.500	0.701	0.582	3.42	0.587	U	0.543	0.952	0.596	U	0.607
Sodium	U	100	2630	116	3410	117	27800	1090	10600	596	12800	607
Thallium	U	1.70	U J	1.98	U J	9.98	U J	1.85	U J	10.1	U J	2.06
Vanadium	U	0.400	68.3	0.466	51.1	0.469	47.2	0.435	51.1	0.476	56.0	0.486
Zinc	U	2.30	367	2.68	1270	2.70	215	2.50	1230	2.74	598	2.79

Table 1.1 (cont) Results of the Analysis for Metals in Soil
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Method REAC SOP 1811/1832

Sample No.	182-0008		182-0009		182-0010		182-0011		182-0012		182-0013	
Location	SB-2 10-15		SB-3 0-5		SB-3 5-10		SB-3 10-15		SB-3 15-20		SB-4 0-5	
% Solids	73		72		72		68		73		78	
Analyte	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg
Aluminum	117000	119	197000	121	150000	121	182000	125	145000	115	103000	111
Antimony	U	1.67	U	8.45	U	8.45	U	8.72	U	1.61	U	1.58
Arsenic	13.2	1.79	U	1.81	4.17	1.81	3.73	1.87	4.16	1.73	11.8	1.67
Barium	106 J+	0.476	145 J+	0.483	97.9 J+	0.483	139 J+	0.499	87.1 J+	0.460	62.1 J+	0.446
Beryllium	2.74	0.357	0.819	0.362	3.76	0.362	4.40	0.374	2.10	0.345	1.63	0.334
Cadmium	5.13 J	0.476	0.719 J	0.483	1.55 J	0.483	3.81 J	0.499	3.01 J	0.460	0.800 J	0.446
Calcium	47700	11.8	25100	12.0	13100	12.0	17200	12.3	18900	11.4	5370	11.0
Chromium	1270 J+	0.596	93.8 J+	0.604	154 J+	0.604	191 J+	0.623	78.4 J+	0.576	54.9 J+	0.557
Cobalt	15.3	0.476	7.53	0.483	13.6	0.483	14.1	0.499	6.98	0.460	10.5	0.446
Copper	4640	0.476	1280	0.483	2280	0.483	3700	0.499	1020	0.460	1170	0.446
Iron	33900	17.9	13800	18.1	33600	18.1	12100	18.7	12800	17.3	32000	16.7
Lead	523	1.19	40.5	1.21	136	1.21	106	1.25	74.5	1.15	41.4	1.11
Magnesium	10500	23.8	14800	24.2	8450	24.2	13300	24.9	6860	23.0	6260	22.3
Manganese	1070	0.476	274	0.483	719	0.483	643	0.499	723	0.460	598	0.446
Mercury	0.653	0.046	U	0.046	0.121	0.046	0.185	0.049	0.192	0.045	U	0.042
Nickel	822	0.715	1020	0.725	1350	0.725	395	0.748	135	0.691	500	0.669
Potassium	1200 J	149	170 J	151	1040 J	151	987 J	156	978 J	144	2300 J	27.9
Selenium	U J	1.55	U J	1.57	U J	1.57	U J	1.62	U J	1.50	U J	1.45
Silver	0.992	0.596	0.604	0.604	0.606	0.604	10.1	0.623	U	0.576	U	0.557
Sodium	19000	596	1160	121	11000	604	10700	623	16500	576	4570	111
Thallium	U J	2.03	U J	10.3	U J	10.3	U J	10.6	U J	9.78	U J	9.48
Vanadium	38.7	0.476	46.9	0.483	57.0	0.483	60.5	0.499	68.8	0.460	47.0	0.446
Zinc	1930	2.74	1000	2.78	1070	2.78	1320	2.87	1610	2.65	397	2.56

Table 1.1 (cont) Results of the Analysis for Metals in Soil
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Method REAC SOP 1811/1832

Sample No.	182-0014		182-0015		182-0016		182-0018	
Location	SB-4 5-10		SB-4 10-15		SB-4 15-20		SB-4 18-19	
% Solids	74		74		86		77	
Analyte	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg
Aluminum	167000	116	170000	116	129000	98.5	118000	113
Antimony	U	8.09	U	8.15	U	1.38	U	1.58
Arsenic	U	1.73	3.38	1.75	4.93	1.48	5.65	1.69
Barium	60.3 J+	0.462	101 J+	0.466	58.9 J+	0.394	149 J+	0.452
Beryllium	1.53	0.347	3.43	0.349	2.84	0.296	1.49	0.339
Cadmium	0.475 J	0.462	1.21 J	0.466	0.858 J	0.394	5.06 J	2.26
Calcium	12500	11.4	17800	11.5	81400	9.76	35400	11.2
Chromium	69.9 J+	0.578	118 J+	0.582	72.7 J+	0.493	93.7 J+	0.565
Cobalt	4.65	0.462	8.54	0.466	5.53	0.394	13.6	0.452
Copper	824	0.462	1210	0.466	4620	0.394	785	0.452
Iron	7280	17.3	11800	17.5	10100	14.8	54800	84.7
Lead	30.9	1.16	93.6	1.16	40.9	0.985	297	1.13
Magnesium	8020	23.1	11400	23.3	6550	19.7	9150	22.6
Manganese	2000	0.462	527	0.466	1550	0.394	895	0.452
Mercury	0.0491	0.045	0.119	0.044	0.113	0.035	2.41	0.213
Nickel	195	0.693	301	0.699	59.7	0.591	372	0.678
Potassium	1060 J	144	1800 J	146	1360 J	123	1720 J	141
Selenium	U J	1.50	U J	1.51	U J	1.28	U J	1.47
Silver	U	0.578	0.613	0.582	2.37	0.493	U	0.565
Sodium	7150	578	8120	582	36800	985	26500	565
Thallium	U J	1.96	U J	9.90	U J	8.38	U J	9.60
Vanadium	90.9	0.462	52.9	0.466	48.7	0.394	40.6	0.452
Zinc	341	2.66	944	2.68	252	2.27	823	2.60

Table 1.1 (cont) Results of the Analysis for Metals in Soil
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Method REAC SOP 1811/1832

Sample No.	Method Blank -121808		182-0020		182-0021		182-0022		182-0023		182-0024	
Location	Lab		SB-5 0-5		SB-6 0-5		SB-6 5-10		SB-6 10-15		SB-6 15-20	
% Solids	100		75		68		75		77		76	
Analyte	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg
Aluminum	U	20.0	116000	114	210000	125	210000	113	184000	111	31500	223
Antimony	U	1.40	U J	1.60	U J	1.74	U J	1.58	U J	1.55	U J	1.56
Arsenic	U	1.50	4.42	1.71	3.06	1.87	2.71	1.69	3.95	1.67	17.3	1.67
Barium	U	0.400	100 J+	0.456	92.7 J+	0.499	81.0 J+	0.452	111 J+	0.444	83.4 J+	0.446
Beryllium	U	0.300	5.20	0.342	4.93	0.374	6.80	0.339	5.94	0.333	0.939	0.335
Cadmium	U	0.400	1.08 J	0.456	1.73 J	0.499	2.17 J	0.452	6.29 J	0.444	U J	0.446
Calcium	U	9.90	32200 J	11.3	10400 J	12.3	12900 J	11.2	17500 J	11.0	3530 J	11.0
Chromium	U	0.500	174 J+	0.57	184 J+	0.623	291 J+	0.565	147 J+	0.555	51.1 J+	0.558
Cobalt	U	0.400	7.98	0.456	10.5	0.499	5.14	0.452	5.49	0.444	11.2	0.446
Copper	U	0.400	1290	0.456	3760	0.499	1810	0.452	3170	0.444	139	0.446
Iron	U	15.0	13000	17.1	11900	18.7	13800	16.9	12200	16.7	38700	83.6
Lead	U	1.00	58.1 J+	1.14	161 J+	1.25	108 J+	1.13	174 J+	1.11	28.9 J+	1.12
Magnesium	U	20.0	13200	22.8	10300	24.9	10100	22.6	13000	22.2	2100	22.3
Manganese	U	0.400	603	0.456	633	0.499	1080	0.452	765	0.444	407	0.446
Mercury	U	0.040	U J	0.0452	0.0713 J	0.049	0.105 J	0.046	0.450 J	0.0433	0.0776 J	0.0446
Nickel	U	0.600	245	0.684	816	0.748	171	0.678	175	0.666	26.3	0.669
Potassium	U	25.0	1730 J	142	2090 J	158	595 J	141	1060 J	139	3940 J	27.9
Selenium	U	1.30	U	1.48	U	1.62	U	1.47	2.41	1.44	1.96	1.45
Silver	U	0.500	U	0.57	1.24	0.623	0.724	0.565	1.51	0.555	U	0.558
Sodium	U	100	22800 J	570	2790 J	125	44900 J	1130	36600 J	1110	6230 J	558
Thallium	U	1.70	U J	1.94	U J	10.6	U J	1.92	U J	1.89	U J	1.90
Vanadium	U	0.400	42.1 J-	0.456	54.6 J-	0.499	62.8 J-	0.452	86.6 J-	0.444	42.7 J-	0.446
Zinc	U	2.30	560	2.62	1950	2.87	937	2.60	1170	2.55	104	2.56

Table 1.1 (cont) Results of the Analysis for Metals in Soil
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Method REAC SOP 1811/1832

Sample No.	182-0026		182-0027		182-0028		182-0029		182-0030		182-0031	
Location	SB-7 0-5		SB-7 5-10		SB-7 10-15		SB-8 0-5		SB-8 0-5		SB-8 10-15	
% Solids	71		80		71		77		78		73	
Analyte	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg
Aluminum	167000	120	9120	21.4	30600	120	160000	105	140000	110	21500	23.6
Antimony	U J	8.43	U J	1.50	U J	8.43	U J	1.47	U J	1.53	U J	1.65
Arsenic	6.15	1.81	21.6	1.60	10.1	9.03	2.42	1.57	4.25	1.64	18.4	8.86
Barium	107 J+	0.482	166 J+	0.427	107 J+	2.41	61.2 J+	0.419	99.8 J+	0.438	279 J+	0.472
Beryllium	2.83	0.361	0.602	0.321	2.15	1.81	2.54	0.314	2.21	0.329	1.01	0.354
Cadmium	5.05 J	0.482	1.32 J	0.427	U J	2.41	1.87 J	0.419	5.74 J	0.438	2.73 J	2.36
Calcium	25900 J	11.9	76800 J	52.9	67700 J	59.6	9690 J	10.4	12500 J	10.8	38800 J	58.5
Chromium	317 J+	0.602	22.2 J+	0.534	46.3 J+	3.01	130 J+	0.524	87.6 J+	0.548	192 J+	0.590
Cobalt	10.7	0.482	18.3	0.427	10.0	2.41	7.15	0.419	4.93	0.438	15.3	0.472
Copper	4710	0.482	640	0.427	30.3	2.41	1810	0.419	1880	0.438	256	0.472
Iron	31500	18.1	61600	80.1	37400	90.3	13000	15.7	12100	16.4	48100	88.6
Lead	265 J+	1.20	559 J+	1.07	41.3 J+	6.02	56.6 J+	1.05	136 J+	1.10	288 J+	1.18
Magnesium	13000	24.1	9440	21.4	4020	120	9690	20.9	7000	21.9	4520	23.6
Manganese	1060	0.482	947	0.427	544	2.41	456	0.419	1560	0.438	3180	2.36
Mercury	0.648 J	0.0469	2.95 J	0.208	U J	0.0477	0.192 J	0.0433	0.575 J	0.0427	0.381 J	0.0484
Nickel	381	0.722	17.5	0.641	30.7	3.61	199	0.628	212	0.657	30.0	0.709
Potassium	986 J	150	1320 J	134	6620 J	150	1100 J	131	939 J	137	3040 J	29.5
Selenium	U	1.56	U	1.39	U	7.82	U	1.36	U	1.42	U	1.54
Silver	2.72	0.602	1.09	0.534	U	3.01	0.677	0.524	0.710	0.548	U	0.590
Sodium	4020 J	120	3370 J	107	10400 J	602	3160 J	105	4180 J	110	6460 J	590
Thallium	U J	2.05	U J	1.82	U J	10.2	U J	1.78	U J	1.86	U J	2.01
Vanadium	60.7 J-	0.482	19.1 J-	0.427	48.3 J-	2.41	52.8 J-	0.419	54.9 J-	0.438	41.9 J-	0.472
Zinc	2330	2.77	2840	2.46	131	13.8	694	2.41	1290	2.52	516	2.72

Table 1.1 (cont) Results of the Analysis for Metals in Soil
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Method REAC SOP 1811/1832

Sample No.	182-0032		182-0033		182-0034		182-0035		182-0036		182-0037	
Location	SB-9 0-5		SB-9 5-10		SB-10 0-5		SB-10 5-10		SB-10 10-15		SB-12 0-5	
% Solids	68		75		72		76		85		80	
Analyte	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg
Aluminum	167000	96.1	169000	114	185000	119	263000	112	123000	101	114000	107
Antimony	U J	6.73	2.73 J	1.60	U J	8.31	U J	1.56	1.61 J	1.41	41.6 J	1.50
Arsenic	3.64	1.44	8.36	1.71	U	1.78	U	1.67	5.17	1.51	6.72	1.60
Barium	116 J+	0.384	106 J+	0.456	103 J+	0.475	11.7 J+	0.446	113 J+	0.402	198 J+	0.427
Beryllium	5.62	0.288	8.25	0.342	3.25	0.356	U	0.335	1.88	0.302	3.23	0.321
Cadmium	2.82 J	0.384	2.35 J	0.456	0.959 J	0.475	U J	0.446	2.97 J	0.402	1.89 J	0.427
Calcium	18700 J	9.52	19800 J	11.3	10100 J	11.8	3390 J	11.0	11600 J	9.95	67600 J	10.6
Chromium	215 J+	0.481	514 J+	0.57	113 J+	0.594	29.9 J+	0.558	161 J+	0.503	143 J+	0.534
Cobalt	8.65	0.384	7.94	0.456	7.39	0.475	2.45	0.446	6.54	0.402	8.08	0.427
Copper	1450	0.384	2230	0.456	2080	0.475	2690	0.446	1470	0.402	1700	0.427
Iron	16400	14.4	18900	17.1	9490	17.8	5300	16.7	19500	15.1	16200	16.0
Lead	106 J+	0.961	224 J+	1.14	72.0 J+	1.19	8.16 J+	5.58	163 J+	1.01	179 J+	1.07
Magnesium	12900	19.2	7280	22.8	10100	23.7	1850	22.3	6730	20.1	16000	21.4
Manganese	754	0.384	897	0.456	507	0.475	79.6	0.446	599	0.402	797	0.427
Mercury	U J	0.046	0.610 J	0.0452	U J	0.0471	U J	0.0439	0.540 J	0.0399	0.444 J	0.0417
Nickel	416	0.577	553	0.684	440	0.712	34.3	0.669	105	0.603	280	0.641
Potassium	1150 J	120	1890 J	142	299 J	148	170 J	27.9	1980 J	126	1160 J	134
Selenium	U	1.25	U	1.48	U	1.54	U	1.45	U	1.31	U	1.39
Silver	0.774	0.481	6.36	0.57	U	0.594	U	0.558	0.579	0.503	U	0.534
Sodium	8190 J	481	38800 J	1140	2860 J	119	2830 J	558	86400 J	2010	3250 J	107
Thallium	U J	8.17	U J	1.94	U J	10.1	U J	9.48	U J	1.71	U J	1.82
Vanadium	91.0 J-	0.384	51.5 J-	0.456	51.3 J-	0.475	84.1 J-	0.446	36.5 J-	0.402	41.7 J-	0.427
Zinc	1080	2.21	2190	2.62	899	2.73	90.8	2.56	1010	2.31	1480	2.46

Table 1.1 (cont) Results of the Analysis for Metals in Soil
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Method REAC SOP 1811/1832

Sample No.	182-0038		182-0039		182-0040	
Location	SB-13 0-5		SB-13 5-10		SB-14 0-5	
% Solids	63		73		78	
Analyte	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg
Aluminum	213000	135	34100	23.2	133000	112
Antimony	2.54 J	1.88	U J	1.63	4.09 J	1.56
Arsenic	5.29	2.02	14.6	1.74	9.29	1.67
Barium	140 J+	0.538	105 J+	0.464	224 J+	0.446
Beryllium	4.13	0.404	2.15	0.348	4.90	0.335
Cadmium	33.9 J	0.538	0.718 J	0.464	13.4 J	0.446
Calcium	13800 J	13.3	11100 J	11.4	37800 J	11.0
Chromium	254 J+	0.673	31.2 J+	0.58	97.5 J+	0.558
Cobalt	6.90	0.538	8.67	0.464	7.79	0.446
Copper	4140	0.538	42.4	0.464	1400	0.446
Iron	10600	20.2	32400	17.4	22100	16.7
Lead	379 J+	1.35	46.2 J+	1.16	335 J+	1.12
Magnesium	16900	26.9	5960	23.2	9190	22.3
Manganese	1060	0.538	641	0.464	871	0.446
Mercury	0.416 J	0.052	0.189 J	0.0464	1.07 J	0.0439
Nickel	292	0.807	17.9	0.697	114	0.669
Potassium	1110 J	168	8420 J	145	2650 J	27.9
Selenium	2.82	1.75	9.87	1.51	U	1.45
Silver	0.877	0.673	U	0.58	0.581	0.558
Sodium	5300 J	135	12800 J	580	28200 J	1120
Thallium	U J	2.29	U J	1.97	U J	1.90
Vanadium	68.4 J-	0.538	38.0 J-	0.464	41.2 J-	0.446
Zinc	4380	3.09	375	2.67	1730	2.56

Table 1.1 (cont) Results of the Analysis for Metals in Soil
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Method REAC SOP 1811/1832

Sample No.	Method Blank -121906		182-0041		182-0042		182-0043		182-0044		182-0045	
Location	Lab		SB-15 0-5		SB-16 0-5		SB-16 5-10		SB-16 10-15		SB-16 15-20	
% Solids	100		77		67		76		72		84	
Analyte	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg
Aluminum	U	20.0	151000	110	217000	126	134000	112	144000	117	76300	97.6
Antimony	U	1.40	2.88	1.54	U	8.85	U	1.57	U	8.17	1.41	1.37
Arsenic	U	1.50	7.82	1.65	2.51	1.90	3.49	1.69	2.06	1.75	9.65	1.46
Barium	U	0.400	137 J+	0.440	181 J+	0.506	99.5 J+	0.450	172 J+	0.467	153 J+	0.390
Beryllium	U	0.300	4.11	0.330	1.54	0.379	6.60	0.337	2.34	0.350	2.26	0.293
Cadmium	U	0.400	12.9	0.440	5.77	0.506	2.81	0.450	1.14	0.467	8.93	0.390
Calcium	U	9.90	50600	10.9	16100	12.5	25000	11.1	18700	11.6	44400	9.66
Chromium	U	0.500	146	0.55	89.8	0.632	172	0.562	108	0.584	322	0.488
Cobalt	U	0.400	7.60	0.440	8.13	0.506	7.34	0.450	7.57	0.467	9.06	0.390
Copper	U	0.400	2170	0.440	1270	0.506	1580	0.450	1020	0.467	2030	0.390
Iron	U	15.0	16500	16.5	11700	19.0	10600	16.9	9650	17.5	39500	73.2
Lead	U	1.00	249 J+	1.10	75.4 J+	1.26	111 J+	1.12	67.2 J+	1.17	630 J+	0.976
Magnesium	U	20.0	17600	22.0	21800	25.3	16600	22.5	17900	23.3	6740	19.5
Manganese	U	0.400	1090	0.440	366	0.506	918	0.450	437	0.467	809	0.390
Mercury	U	0.040	0.303	0.043	0.126	0.050	0.076	0.042	U	0.047	4.72	0.390
Nickel	U	0.600	256 J	0.660	800 J	0.759	408 J	0.675	525 J	0.700	147 J	0.585
Potassium	U	25.0	1360	27.5	973	31.6	2480	28.1	3530	29.2	2770	24.4
Selenium	U	1.30	U J	1.43	U J	1.64	U J	1.46	U J	1.52	U J	1.27
Silver	U	0.500	0.878	0.55	U	0.632	0.753	0.562	U	0.584	0.636	0.488
Sodium	U	100	3180	550	1910	126	18700	562	13600	584	17800	488
Thallium	U	1.70	U J	1.87	U J	10.8	U J	1.91	U J	9.92	U J	1.66
Vanadium	U	0.400	43.7	0.440	53.6	0.506	45.9	0.450	43.4	0.467	32.9	0.390
Zinc	U	2.30	1730	2.53	1130	2.91	870	2.59	531	2.68	1540	2.24

Table 1.1 (cont) Results of the Analysis for Metals in Soil
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Method REAC SOP 1811/1832

Sample No.	182-0047		182-0048		182-0049		182-0050		182-0052		182-0053	
Location	SB-17 0-3		SB-18 0-5		SB-18 5-10		SB-18 10-15		SB-19 0-5		SB-20 0-5	
% Solids	73		70		79		75		81		69	
Analyte	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg
Aluminum	126000	115	177000	124	104000	111	210000	115	118000	106	136000	127
Antimony	U	8.06	1.78	1.74	U	1.55	U	1.61	U	1.49	U	8.90
Arsenic	2.33	1.73	4.63	1.86	U	1.67	4.71	1.72	3.74	1.60	3.76	1.91
Barium	169 J+	0.460	109 J+	0.497	68.7 J+	0.444	92.2 J+	0.460	162 J+	0.426	44.9 J+	0.509
Beryllium	2.46	0.345	2.58	0.373	0.823	0.333	1.08	0.345	6.35	0.319	0.918	0.381
Cadmium	U	0.460	16.0	0.497	0.562	0.444	0.947	0.460	8.20	0.426	U	0.509
Calcium	24700	11.4	15000	12.3	10500	11.0	27000	11.4	50500	10.5	24000	12.6
Chromium	163	0.576	185	0.621	97.9	0.555	108	0.575	67.3	0.532	194	0.636
Cobalt	14.0	0.460	8.40	0.497	5.05	2.22	7.00	0.460	5.06	0.426	6.68	0.509
Copper	1510	0.460	2880	0.497	3510	0.444	1660	0.460	1370	0.426	3240	0.509
Iron	6140	17.3	12700	18.6	8640	16.7	25100	17.2	11800	16.0	37900	19.1
Lead	73.6 J+	1.15	119 J+	1.24	59.7 J+	1.11	45.9 J+	1.15	130 J+	1.06	61.0 J+	1.27
Magnesium	34500	23.0	8840	24.8	4900	22.2	8060	23.0	15900	21.3	17200	25.4
Manganese	232	0.460	1220	0.497	439	0.444	2360	0.460	953	0.426	787	0.509
Mercury	U	0.045	0.0652	0.048	U	0.042	U	0.044	0.683	0.041	U	0.049
Nickel	543 J	0.691	374 J	0.745	118 J	0.666	158 J	0.690	77.2 J	0.639	906 J	0.763
Potassium	1570 J	144	1240	31.1	693 J	139	1340 J	144	1360 J	133	960	31.8
Selenium	U J	1.50	U J	1.61	U J	1.44	U J	1.49	U J	1.38	U J	1.65
Silver	0.890	0.576	U	0.621	0.677	0.555	U	0.575	U	0.532	U	0.636
Sodium	9140	576	4290 J	621	42700	1110	27900	575	19200	532	4770	636
Thallium	U J	9.78	U J	2.11	U J	9.44	U J	1.95	U J	1.81	U J	2.16
Vanadium	87.6	0.460	52.1	0.497	25.0	0.444	51.4	0.460	37.9	0.426	47.0	0.509
Zinc	562	2.65	1190	2.86	521	2.55	298	2.64	1370	2.45	663	2.92

Table 1.1 (cont) Results of the Analysis for Metals in Soil
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Method REAC SOP 1811/1832

Sample No.	182-0054		182-0055		182-0064		182-0065		182-0068		182-0069	
Location	SB-21 0-5		SB-21 10-15		SB-22 0-2		SB-23 0-2		Inside Pile		Boiler Dust E	
% Solids	75		69		66		66		90		82	
Analyte	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg	Result mg/kg	RL mg/kg
Aluminum	139000	116	19100	126	216000	133	127000	130	156000	110	128000	121
Antimony	U	1.62	U	8.82	U	9.30	2.07	1.81	3.34	1.54	7.09	1.69
Arsenic	3.68	1.74	11.3	9.45	U	1.99	13.0	1.94	2.13	1.65	59.6	1.81
Barium	114 J+	0.464	136 J+	2.52	145 J+	0.532	177 J+	0.518	164 J+	0.440	246 J+	0.483
Beryllium	3.16	0.348	U	1.89	1.18	0.399	3.83	0.389	2.25	0.330	1.36	0.362
Cadmium	0.552	0.464	3.49 J	0.504	0.792	0.532	11.2	0.518	0.900	0.440	2.83 J	0.482
Calcium	19200	11.5	52000	62.4	13800	13.2	30600	12.8	11800	10.9	25400	12.0
Chromium	124	0.58	46.0	3.15	73.7	0.665	133	0.648	133	0.55	83.1	0.604
Cobalt	6.38	0.464	18.1	2.52	8.32	0.532	12.7	0.518	6.06 J	2.20	9.40	0.483
Copper	1160	0.464	56.3	2.52	2310	0.532	1340	0.518	1560	0.440	2700	0.483
Iron	12200	17.4	27900	94.5	6380	19.9	29500	19.4	8960	16.5	73800	90.6
Lead	83.8 J+	1.16	181 J+	6.30	27.2 J+	6.65	260 J+	1.30	75.2 J+	1.10	81.0 J+	1.21
Magnesium	11500	23.2	12300	126	11400	26.6	11600	25.9	9310	22.0	11900	24.1
Manganese	684	0.464	926	2.52	319	0.532	1120	0.518	511	0.440	630	0.483
Mercury	0.0958	0.045	0.220	0.049	U	0.052	0.356	0.051	U	0.044	0.221	0.049
Nickel	232 J	0.696	29.7 J	3.78	1410 J	0.797	342 J	0.777	145 J	0.660	516 J	0.724
Potassium	998 J	145	3440	158	383	166	3390	32.4	30800	275	5860	151
Selenium	U J	1.51	U J	8.19	U J	1.73	U J	1.68	U J	1.43	U J	1.57
Silver	0.714	0.58	U	3.15	0.829	0.665	0.724	0.648	0.806	0.55	U	0.604
Sodium	13500	580	6150 J	630	2670	133	1270	130	129000	4400	79500	2410
Thallium	U J	1.97	U J	10.7	U J	2.26	U J	2.20	U J	1.87	U J	2.05
Vanadium	45.1	0.464	47.3	2.52	53.5	0.532	56.6	0.518	35.8	0.440	30.5	0.483
Zinc	623	2.67	362	14.5	596	3.06	1430	2.98	1150	2.53	6070	2.78

Table 1.1 (cont) Results of the Analysis for Metals in Soil
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Method REAC SOP 1811/1632

Sample No.	182-0070
Location	Boiler Dust W
% Solids	82

Analyte	Result mg/kg		RL mg/kg
Aluminum	208000		120
Antimony	13.0		1.67
Arsenic	11.0		1.79
Barium	286	J+	0.478
Beryllium	0.441		0.359
Cadmium	1.76		0.478
Calcium	14200		11.8
Chromium	182		0.598
Cobalt	12.2		0.478
Copper	11500		0.478
Iron	49200		89.7
Lead	827	J+	1.20
Magnesium	16100		23.9
Manganese	530		0.478
Mercury	U		0.049
Nickel	2240	J	0.717
Potassium	6080		149
Selenium	U	J	1.55
Silver	3.96		0.598
Sodium	32600		1200
Thallium	U	J	2.03
Vanadium	37.6		0.478
Zinc	1290		2.75

Table 1.2 Results of the Analysis for Metals in Water
WA # 0-182 Smokey Mountain Smelter

Method REAC SOP 1811/1832

Sample No.	Method Blank-122006		182-0025		182-0058		182-0059		182-0060		182-0061	
Location	Lab		TW - 2		TW - 1		TW - 5		BKGND		Strm	
Analyte	Result µg/L	RL µg/L	Result µg/L	RL µg/L	Result µg/L	RL µg/L	Result µg/L	RL µg/L	Result µg/L	RL µg/L	Result µg/L	RL µg/L
Aluminum	U	50.0	22000	50.0	111000	50.0	19100	250	U	50.0	896	250
Antimony	U	14.0	U	14.0	U	14.0	U	14.0	U	14.0	18.9	14.0
Arsenic	U	17.0	43.7	17.0	U	17.0	31.6	17.0	U	17.0	17.3	17.0
Barium	U	2.00	407	2.00	95.9	2.00	333	2.00	25.6	2.00	36.9	2.00
Beryllium	U	2.00	U	2.00	5.19	2.00	U	2.00	U	2.00	U	2.00
Cadmium	U	3.00	U	3.00	U	3.00	U	3.00	U	3.00	U	3.00
Calcium	U	60.0	257000	60.0	15600	60.0	56900	60.0	59300	60.0	11200	60.0
Chromium	U	3.00	59.6	15.0	68.8	3.00	21.4	3.00	U	3.00	U	3.00
Cobalt	U	3.00	131	3.00	8.13	3.00	66.9	3.00	U	3.00	U	3.00
Copper	U	4.00	663	4.00	2070	4.00	67.2	20.0	U	4.00	988	4.00
Iron	U	25.0	336000	125	18200	25.0	17500	25.0	155	25.0	48.0	25.0
Lead	U	10.0	76.5	50.0	72.5	10.0	43.5	10.0	U	10.0	U	10.0
Magnesium	U	160	96600	160	20700	160	18600	800	4760	160	7260	160
Manganese	U	2.00	135000	20.0	617	2.00	19100	2.00	47.2	2.00	224	2.00
Mercury	U	0.200	U	0.200	0.208	0.200	U	0.200	U	0.200	0.421	0.200
Nickel	U	5.00	86.0	25.0	148	5.00	44.1	25.0	U	5.00	29.7	5.00
Potassium	U	200	406000	2000	132000	1000	651000	10000	665	200	366000	2000
Selenium	U	11.0	15.0	11.0	U	11.0	23.1	11.0	U	11.0	U	11.0
Silver	U	4.00	U J	4.00	U J	4.00	U J	4.00	U J	4.00	U J	4.00
Sodium	U	2500	10700000	1250000	1310000	125000	17200000	2500000	U	2500	6930000	1250000
Thallium	U	18.0	U	90.0	U	18.0	U	18.0	U	18.0	U	18.0
Vanadium	U	3.00	9.70	3.00	92.4	3.00	24.1	3.00	U	3.00	13.0	3.00
Zinc	U	6.00	94.2 J	6.00	733	6.00	U	600	U	6.00	U	300

Table 1.2 (cont) Results of the Analysis for Metals in Water
WA # 0-182 Smokey Mountain Smelter

Method REAC SOP 1811/1832

Sample No.	182-0062		182-0063		182-0067		182-0073		182-0074		182-0075	
Location	Mayo		Mayo - dup		leachate		TW - 7		Pond		Spring 2	
Analyte	Result µg/L	RL µg/L	Result µg/L	RL µg/L	Result µg/L	RL µg/L	Result µg/L	RL µg/L	Result µg/L	RL µg/L	Result µg/L	RL µg/L
Aluminum	U	50.0	U	50.0	935	50.0	166000	50.0	910	50.0	129	50.0
Antimony	U	14.0	U	14.0	17.9	14.0	37.0	14.0	U	14.0	U	14.0
Arsenic	U	17.0	U	17.0	18.7	17.0	40.1	17.0	U	17.0	U	17.0
Barium	76.0	2.00	76.4	2.00	37.8	2.00	205	2.00	15.2	2.00	88.5	2.00
Beryllium	U	2.00	U	2.00	U	2.00	3.44	2.00	U	2.00	U	2.00
Cadmium	U	3.00	U	3.00	U	3.00	47.4	3.00	U	3.00	U	3.00
Calcium	200000	60.0	200000	60.0	10200	60.0	23900	60.0	37000	60.0	161000	60.0
Chromium	U	3.00	U	3.00	U	3.00	254	3.00	U	3.00	U	3.00
Cobalt	U	3.00	U	3.00	U	3.00	15.5	3.00	U	3.00	U	3.00
Copper	U	4.00	U	4.00	1100	4.00	4320	4.00	11.3	4.00	4.03	4.00
Iron	U	25.0	26.6	25.0	106	25.0	37900	25.0	1380	25.0	577	25.0
Lead	U	10.0	U	10.0	10.5	10.0	1450	10.0	U	10.0	U	10.0
Magnesium	15100	160	15100	160	6820	160	11500	160	5770	160	12700	160
Manganese	57.8	2.00	58.6	2.00	116	2.00	1020	2.00	182	2.00	148	2.00
Mercury	U	0.200	U	0.200	0.498	0.200	12.2	1.00	U	0.200	U	0.200
Nickel	U	5.00	U	5.00	31.5	5.00	482	5.00	U	5.00	U	5.00
Potassium	7590	200	7590	200	367000	2000	182000	1000	20500	200	1210	200
Selenium	U	11.0	U	11.0	U	11.0	U	11.0	U	11.0	U	11.0
Silver	U J	4.00	U J	4.00	U J	4.00	U J	4.00	U J	4.00	U J	4.00
Sodium	327000	25000	324000	25000	7010000	1250000	4610000	1250000	95500	12500	126000	12500
Thallium	U	18.0	U	18.0	U	18.0	U	18.0	U	18.0	U	18.0
Vanadium	U	3.00	U	3.00	9.66	3.00	80.8	3.00	U	3.00	U	3.00
Zinc	U	30.0	U	30.0	U	300	3640	6.00	7.23	6.00	U	6.00

Table 1.2 (cont) Results of the Analysis for Metals in Water
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Method REAC SOP 1811/1832

Sample No.	182-0077
Location	Blank
% Solids	

Analyte	Result µg/L		RL µg/L
Aluminum	U		50.0
Antimony	U		14.0
Arsenic	U		17.0
Barium	U		2.00
Beryllium	U		2.00
Cadmium	U		3.00
Calcium	U		60.0
Chromium	U		3.00
Cobalt	U		3.00
Copper	U		4.00
Iron	U		25.0
Lead	U		10.0
Magnesium	U		160
Manganese	U		2.00
	U		0.200
Nickel	U		5.00
Potassium	U		200
Selenium	U		11.0
Silver	U	J	4.00
Sodium	U		2500
Thallium	U		18.0
Vanadium	U		3.00
Zinc	U		6.00

Section II

Table 2.1 Results of MS/MSD Analysis for Metals in Soil
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Sample No. 182-0009

Analyte	Sample Result mg/kg	MS Spike Added mg/kg	MS Result mg/kg	MS % Recovery		MSD Spike Added mg/kg	MSD Result mg/kg	MSD % Recovery		RPD		Recommended QC Limits RPD	Recommended QC Limits %Recovery
Antimony	U	48.3	14.1	29		48.3	13.0	27		8		20	0-86
Arsenic	U	48.3	39.8	82		48.3	40.1	83		1		20	75-125
Barium	145	48.3	193	99		48.3	196	106		6		20	75-125
Beryllium	0.819	48.3	52.0	106		48.3	52.4	107		1		20	75-125
Cadmium	0.719	48.3	48.7	99		48.3	49.0	100		1		20	75-125
Chromium	93.8	48.3	293	412	*	48.3	143	102		121	*	20	75-125
Cobalt	7.53	48.3	57.1	103		48.3	56.8	102		1		20	75-125
Copper	1280	48.3	1340	NC		48.3	1260	NC		NC		20	75-125
Iron	40.5	48.3	86.7	96		48.3	84.6	91		5		20	75-125
Lead	274	48.3	387	NC		48.3	297	NC		NC		20	75-125
Manganese	U	0.463	0.507	110		0.463	0.477	103		6		20	75-125
Nickel	1020	48.3	1130	NC		48.3	928	NC		NC		20	75-125
Selenium	U	24.2	11.8	49	*	24.2	12.0	50	*	2		20	75-125
Silver	0.604	48.3	51.7	106		48.3	51.3	105		1		20	75-125
Thallium	U	24.2	14.2	59	*	24.2	14.0	58	*	1		20	75-125
Vanadium	46.9	48.3	102	114		48.3	97.7	105		8		20	75-125
Zinc	1000	48.3	1110	NC		48.3	1170	NC		NC		20	75-125

Sample No. 182-0018

Analyte	Sample Result mg/kg	MS Spike Added mg/kg	MS Result mg/kg	MS % Recovery		MSD Spike Added mg/kg	MSD Result mg/kg	MSD % Recovery		RPD		Recommended QC Limits RPD	Recommended QC Limits %Recovery
Antimony	U	45.2	12.1	27		44.8	11.4	25		5		20	0-86
Arsenic	5.65	45.2	46.3	90		44.8	46.1	90		0		20	75-125
Barium	149	45.2	329	398	*	44.8	197	107		115	*	20	75-125
Beryllium	1.49	45.2	46.9	100		44.8	46.4	100		0		20	75-125
Cadmium	5.06	45.2	46.5	92		44.8	49.9	100		9		20	75-125
Chromium	93.7	45.2	114	45	*	44.8	142	108		82	*	20	75-125
Cobalt	13.6	45.2	55.5	93		44.8	59.0	101		9		20	75-125
Copper	785	45.2	749	NC		44.8	1050	NC		NC		20	75-125
Lead	297	45.2	271	NC		44.8	450	NC		NC		20	75-125
Manganese	895	45.2	984	NC		44.8	841	NC		NC		20	75-125
Mercury	2.41	0.419	4.49	NC		0.406	2.70	NC		NC		20	75-125
Nickel	372	45.2	302	NC		44.8	418	NC		NC		20	75-125
Selenium	U	22.6	14.7	65	*	22.4	14.2	63	*	3		20	75-125
Silver	U	45.2	46.9	104		44.8	45.8	102		1		20	75-125
Thallium	U	22.6	13.5	60	*	22.4	10.3	46	*	26	*	20	75-125
Vanadium	40.6	45.2	88.0	105		44.8	79.9	88		18		20	75-125
Zinc	823	45.2	628	NC		44.8	1230	NC		NC		20	75-125

Table 2.1 (cont) Results of MS/MSD Analysis for Metals in Soil
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Sample No. 182-0030

Analyte	Sample Result mg/kg	MS Spike Added mg/kg	MS Result mg/kg	MS % Recovery		MSD Spike Added mg/kg	MSD Result mg/kg	MSD % Recovery		RPD		Recommended QC Limits RPD	Recommended QC Limits %Recovery
Antimony	U	43.1	14.0	32		43.5	14.2	33		0		20	0-91
Arsenic	4.25	43.1	48.5	103		43.5	48.6	102		1		20	75-125
Barium	99.8	43.1	252	353	*	43.5	184	194	*	58	*	20	75-125
Beryllium	2.21	43.1	44.4	98		43.5	45.9	100		3		20	75-125
Cadmium	5.74	43.1	44.9	91		43.5	46.3	93		3		20	75-125
Chromium	87.6	43.1	143	129	*	43.5	123	81		45	*	20	75-125
Cobalt	4.93	43.1	47.7	99		43.5	48.4	100		1		20	75-125
Copper	1880	43.1	1300	NC		43.5	1480	NC		NC		20	75-125
Lead	136	43.1	271	313	*	43.5	245	251	*	22	*	20	75-125
Manganese	1560	43.1	953	NC		43.5	1200	NC		NC		20	75-125
Mercury	0.575	0.427	0.917	80		0.427	1.09	121		40	*	20	75-125
Nickel	212	43.1	171	NC		43.5	167	NC		NC		20	75-125
Selenium	U	21.5	20.0	93		21.7	19.4	89		4		20	75-125
Silver	0.710	43.1	42.6	97		43.5	43.3	98		1		20	75-125
Thallium	U	21.5	13.8	64	*	21.7	13.5	62	*	3		20	75-125
Vanadium	54.9	43.1	85.6	71	*	43.5	88.2	77		7		20	75-125
Zinc	1290	43.1	1050	NC		43.5	1010	NC		NC		20	75-125

Sample No. 182-0037

Analyte	Sample Result mg/kg	MS Spike Added mg/kg	MS Result mg/kg	MS % Recovery		MSD Spike Added mg/kg	MSD Result mg/kg	MSD % Recovery		RPD		Recommended QC Limits RPD	Recommended QC Limits %Recovery
Antimony	41.6	42.7	9.29	0	*	42.7	9.43	0	*	NC		20	0-91
Arsenic	6.72	42.7	48.3	97		42.7	47.2	95		3		20	75-125
Barium	198	42.7	195	NC		42.7	175	NC		NC		20	75-125
Beryllium	3.23	42.7	45.2	98		42.7	45.6	99		1		20	75-125
Cadmium	1.89	42.7	44.7	100		42.7	44.8	100		0		20	75-125
Chromium	143	42.7	140	NC		42.7	155	NC		NC		20	75-125
Cobalt	8.08	42.7	49.7	97		42.7	49.7	97		0		20	75-125
Copper	1700	42.7	1820	NC		42.7	1830	NC		NC		20	75-125
Lead	179	42.7	190	NC		42.7	185	NC		NC		20	75-125
Manganese	797	42.7	898	NC		42.7	728	NC		NC		20	75-125
Mercury	0.444	0.417	0.904	110		0.417	0.904	110		0		20	75-125
Nickel	280	42.7	339	NC		42.7	314	NC		NC		20	75-125
Selenium	U	21.4	18.5	86		21.4	17.9	84		3		20	75-125
Silver	U	42.7	43.6	102		42.7	43.7	102		0		20	75-125
Thallium	U	21.4	14.3	67	*	21.4	13.8	64	*	4		20	75-125
Vanadium	41.7	42.7	83.8	99		42.7	85.6	103		4		20	75-125
Zinc	1480	42.7	1280	NC		42.7	1290	NC		NC		20	75-125

Table 2.1 (cont) Results of MS/MSD Analysis for Metals in Soil
WA # 0-182 Smokey Mountain Smelter
Results Based on Dry Weight

Sample No. 182-0042

Analyte	Sample Result mg/kg	MS Spike Added mg/kg	MS Result mg/kg	MS % Recovery		MSD Spike Added mg/kg	MSD Result mg/kg	MSD % Recovery		RPD		Recommended QC Limits RPD	Recommended QC Limits %Recovery
Antimony	U	50.6	14.6	29		50.6	14.4	28		1		20	0-86
Arsenic	2.51	50.6	48.3	90		50.6	49.7	93		3		20	75-125
Barium	181	50.6	263	162	*	50.6	259	154	*	5		20	75-125
Beryllium	1.54	50.6	55.2	106		50.6	55.1	106		0		20	75-125
Cadmium	5.77	50.6	57.7	103		50.6	58.4	104		1		20	75-125
Chromium	89.8	50.6	143	105		50.6	145	109		4		20	75-125
Cobalt	8.13	50.6	60.9	104		50.6	61.5	105		1		20	75-125
Copper	1270	50.6	1260	NC		50.6	1250	NC		NC		20	75-125
Lead	75.4	50.6	129	106		50.6	123	94		12		20	75-125
Manganese	366	50.6	372	NC		50.6	387	NC		NC		20	75-125
Mercury	0.126	0.498	0.716	118		0.506	0.650	104		13		20	75-125
Nickel	800	50.6	859	117		50.6	861	121		3		20	75-125
Selenium	U	25.3	16.8	66	*	25.3	17.3	68	*	3		20	75-125
Silver	U	50.6	53.3	105		50.6	53.4	106		0		20	75-125
Thallium	U	25.3	15.9	63	*	25.3	16.8	66	*	6		20	75-125
Vanadium	53.6	50.6	105	102		50.6	105	102		0		20	75-125
Zinc	1130	50.6	1170	79		50.6	1170	79		0		20	75-125

Sample No. 182-0068

Analyte	Sample Result mg/kg	MS Spike Added mg/kg	MS Result mg/kg	MS % Recovery		MSD Spike Added mg/kg	MSD Result mg/kg	MSD % Recovery		RPD		Recommended QC Limits RPD	Recommended QC Limits %Recovery
Antimony	3.34	44.0	38.9	81		44.0	42.0	88		8		20	0-86
Arsenic	2.13	44.0	46.8	102		44.0	48.8	106		4		20	75-125
Barium	164	44.0	204	91		44.0	204	91		0		20	75-125
Beryllium	2.25	44.0	45.8	99		44.0	46.8	101		2		20	75-125
Cadmium	U	44.0	44.7	102		44.0	45.2	103		1		20	75-125
Chromium	133	44.0	178	102		44.0	171	86		17		20	75-125
Cobalt	6.06	44.0	49.0	97		44.0	53.0	107		10		20	75-125
Copper	1560	44.0	1260	NC		44.0	5020	NC		NC		20	75-125
Lead	75.2	44.0	112	84		44.0	135	136	*	48	*	20	75-125
Manganese	511	44.0	476	NC		44.0	470	NC		NC		20	75-125
Mercury	U	0.436	0.466	107		0.436	0.444	102		5		20	75-125
Nickel	145	44.0	170	57	*	44.0	212	152	*	91	*	20	75-125
Selenium	U	22.0	19.2	87		22.0	20.4	93		6		20	75-125
Silver	0.806	44.0	45.4	101		44.0	47.0	105		4		20	75-125
Thallium	U	22.0	16.6	75		22.0	16.3	74	*	2		20	75-125
Vanadium	35.8	44.0	79.5	99		44.0	81.5	104		4		20	75-125
Zinc	1150	44.0	1170	NC		44.0	2570	NC		NC		20	75-125

Table 2.2 Results of MS/MSD Analysis for Metals in Water
WA # 0-182 Smokey Mountain Smelter

Sample No. 182-0062

Analyte	Sample Result µg/L	MS Spike Added µg/L	MS Result µg/L	MS % Recovery	MSD Spike Added µg/L	MSD Result µg/L	MSD % Recovery	RPD	Recommended QC Limits RPD	Recommended QC Limits %Recovery
Aluminum	U	1110	1140	103	1110	1160	105	2	20	75-125
Antimony	U	111	113	102	111	113	102	0	20	75-125
Arsenic	U	55.6	56.9	102	55.6	57.3	103	1	20	75-125
Barium	76.0	111	191	104	111	195	107	3	20	75-125
Beryllium	U	111	112	101	111	114	103	2	20	75-125
Cadmium	U	111	114	103	111	116	104	2	20	75-125
Chromium	U	111	111	100	111	114	103	3	20	75-125
Cobalt	U	111	112	101	111	114	103	2	20	75-125
Copper	U	111	114	103	111	116	104	2	20	75-125
Iron	U	1110	1170	105	1110	1190	107	2	20	75-125
Lead	U	55.6	57.2	103	55.6	56.4	102	1	20	75-125
Manganese	57.8	111	171	102	111	173	104	2	20	75-125
Mercury	U	2.00	2.12	106	2.00	2.10	105	1	20	75-125
Nickel	U	111	116	104	111	118	106	2	20	75-125
Selenium	U	55.6	56.8	102	55.6	59.9	108	5	20	75-125
Silver	U	111	104	94	111	105	95	1	20	75-125
Thallium	U	55.6	51.5	93	55.6	53.2	96	3	20	75-125
Vanadium	U	111	112	101	111	115	104	3	20	75-125
Zinc	U	111	104	94	111	105	95	1	20	75-125

Sample No. 182-0074

Analyte	Sample Result µg/L	MS Spike Added µg/L	MS Result µg/L	MS % Recovery	MSD Spike Added µg/L	MSD Result µg/L	MSD % Recovery	RPD	Recommended QC Limits RPD	Recommended QC Limits %Recovery
Aluminum	910	1110	1900	89	1110	1900	89	0	20	75-125
Antimony	U	111	113	102	111	113	102	0	20	75-125
Arsenic	U	55.6	58.3	105	55.6	59.9	108	3	20	75-125
Barium	15.2	111	132	105	111	134	107	2	20	75-125
Beryllium	U	111	115	104	111	116	104	1	20	75-125
Cadmium	U	111	115	104	111	115	104	0	20	75-125
Chromium	U	111	114	103	111	115	104	1	20	75-125
Cobalt	U	111	115	104	111	116	104	1	20	75-125
Copper	11.3	111	123	101	111	125	102	2	20	75-125
Iron	1380	1110	2470	98	1110	2460	97	1	20	75-125
Lead	U	55.6	58.0	104	55.6	58.4	105	1	20	75-125
Manganese	182	111	289	96	111	287	95	2	20	75-125
Mercury	U	2.00	2.12	106	2.00	2.14	107	1	20	75-125
Nickel	U	111	120	108	111	122	110	2	20	75-125
Selenium	U	55.6	58.7	106	55.6	59.0	106	1	20	75-125
Silver	U	111	74.9	67 *	111	73.3	66 *	2	20	75-125
Thallium	U	55.6	58.0	104	55.6	57.3	103	1	20	75-125
Vanadium	U	111	115	104	111	116	104	1	20	75-125
Zinc	7.23	111	124	105	111	124	105	0	20	75-125

Table 2.3 Results of the LCS Analysis for Metals in Soil
WA # 0-182-Smokey Mountain Smelter site

LCS Standard: ERA Lot No. D050540-121506
Date Analyzed: 12/18/2006

Mercury: ERA Lot No. D050540-121506
Date Analyzed: 12/15/06

Analyte	Conc. Recovered mg/kg	Certified Value mg/kg	PALs mg/kg	% Recovery
Aluminum	6890	7150	4380 - 9920	96
Antimony	34.0	67.4	D.L - 142	50
Arsenic	166	173	140 - 206	96
Barium	341	359	296 - 421	95
Beryllium	114	119	98.9 - 139	96
Cadmium	51.2	55.2	45.3 - 65.0	93
Calcium	3610	3870	3120 - 4620	93
Chromium	108	114	91.8 - 136	95
Cobalt	123	129	105 - 152	95
Copper	75.7	80.6	67.1 - 94.1	94
Iron	13000	13800	7250 - 20400	94
Lead	117	124	101 - 147	94
Magnesium	2590	2670	2080 - 3250	97
Manganese	254	260	212 - 308	98
Mercury	2.23	2.48	1.64 - 3.29	90
Nickel	157	165	136 - 193	95
Potassium	2450	2930	2150 - 3710	84
Selenium	111	115	89.1 - 141	97
Silver	63.3	66	43.7 - 88.3	96
Sodium	315	476	305 - 647	66
Thallium	81.2	102	79.0 - 125	80
Vanadium	75.2	80.4	58.5 - 102	94
Zinc	158	167	132 - 202	95

PAL - Performance Acceptance Limits

LCS Standard: ERA Lot No. D050540-121806
Date Analyzed: 12/19/2006

Mercury: ERA Lot No. D050540-122706
Date Analyzed: 12/27/06

Analyte	Conc. Recovered mg/kg	Certified Value mg/kg	PALs mg/kg	% Recovery
Aluminum	6740	7150	4380 - 9920	94
Antimony	28.4	67.4	D.L - 142	42
Arsenic	166	173	140 - 206	96
Barium	334	359	296 - 421	93
Beryllium	114	119	98.9 - 139	96
Cadmium	51.6	55.2	45.3 - 65.0	93
Calcium	3580	3870	3120 - 4620	93
Chromium	105	114	91.8 - 136	92
Cobalt	123	129	105 - 152	95
Copper	76.1	80.6	67.1 - 94.1	94
Iron	11900	13800	7250 - 20400	86
Lead	117	124	101 - 147	94
Magnesium	2540	2670	2080 - 3250	95
Manganese	248	260	212 - 308	95
Mercury	2.13	2.48	1.64 - 3.29	86
Nickel	157	165	136 - 193	95
Potassium	2360	2930	2150 - 3710	81
Selenium	112	115	89.1 - 141	97
Silver	62.5	66	43.7 - 88.3	95
Sodium	379	476	305 - 647	80
Thallium	79.2	102	79.0 - 125	78
Vanadium	72.6	80.4	58.5 - 102	90
Zinc	160	167	132 - 202	96

PAL - Performance Acceptance Limits

Table 2.3 (cont) Results of the LCS Analysis for Metals in Soil
WA # 0-182-Smokey Mountain Smelter site

LCS Standard: ERA Lot No. D050540-121906
Date Analyzed: 12/20/06

Mercury: ERA Lot No. D050540-121906
12/19/06

Analyte	Conc. Recovered mg/kg	Certified Value mg/kg	PALs mg/kg	% Recovery
Aluminum	7050	7150	4380 - 9920	99
Antimony	31.1	67.4	D.L - 142	46
Arsenic	169	173	140 - 206	98
Barium	339	359	296 - 421	94
Beryllium	114	119	98.9 - 139	96
Cadmium	53.9	55.2	45.3 - 65.0	98
Calcium	3650	3870	3120 - 4620	94
Chromium	109	114	91.8 - 136	96
Cobalt	125	129	105 - 152	97
Copper	77.1	80.6	67.1 - 94.1	96
Iron	12800	13800	7250 - 20400	93
Lead	120	124	101 - 147	97
Magnesium	2620	2670	2080 - 3250	98
Manganese	250	260	212 - 308	96
Mercury	2.65	2.48	1.64 - 3.29	107
Nickel	162	165	136 - 193	98
Potassium	2470	2930	2150 - 3710	84
Selenium	113	115	89.1 - 141	98
Silver	62.4	66	43.7 - 88.3	95
Sodium	360	476	305 - 647	76
Thallium	83.6	102	79.0 - 125	82
Vanadium	74.3	80.4	58.5 - 102	92
Zinc	165	167	132 - 202	99

PAL - Performance Acceptance Limits

Table 2.4 Results of the LCS Analysis for Metals in Water
WA # 0-182-Smokey Mountain Smelter site

LCS Standard: ERA Lot No. 07074-122006 Mercury: ERA Lot No. S105-666-122806
Date Analyzed: 12/26/06 Date Analyzed: 12/28/06

Analyte	Conc. Recovered µg/L	Certified Value µg/L	PALs µg/L	% Recovery
Aluminum	912	857	727 - 983	106
Antimony	489	503	351 - 606	97
Arsenic	662	646	542 - 756	102
Barium	777	758	649 - 862	103
Beryllium	201	192	162 - 217	105
Calcium	NA	NA	NA	-
Cadmium	423	412	351 - 468	103
Chromium	323	302	262 - 343	107
Cobalt	202	184	160 - 207	110
Copper	342	334	302 - 368	102
Iron	784	698	615 - 791	112
Lead	404	382	330 - 432	106
Magnesium	NA	NA	NA	-
Manganese	308	287	256 - 319	107
Mercury	3.32	3.24	2.75 - 3.77	102
Nickel	886	839	758 - 938	106
Potassium	NA	NA	NA	-
Selenium	534	516	408 - 598	103
Silver	212	209	179 - 240	101
Sodium	NA	NA	NA	-
Thallium	297	286	229 - 334	104
Vanadium	423	405	363 - 444	104
Zinc	520	474	418 - 535	110

PAL - Performance Acceptance Limits

Section III

0182-DAR-022707

CHAIN OF CUSTODY RECORD

Site #: 182

Contact Name: tim macaluso

Contact Phone: 732 785 2913

No: 182-121306-01

EPA Contract #: EP-C-04-032

Lab: REAC Lab

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
13231	182-0003	SB-1 0-5	Metals, Hg	Soil	12/12/2006	1	8 oz glass	4 C	
	182-0003	SB-1	VOCs		12/12/2006	1	8 oz glass	4 C	
	182-0003	SB-1	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13232	182-0004	SB-1 7-8	Metals, Hg		12/12/2006	1	8 oz glass	4 C	
	182-0004	SB-1	VOCs		12/12/2006	1	8 oz glass	4 C	
	182-0004	SB-1	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13233	182-0005	SB-1 10-15	Metals, Hg		12/12/2006	1	8 oz glass	4 C	
	182-0005	SB-1	VOCs		12/12/2006	1	8 oz glass	4 C	
	182-0005	SB-1	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13234	182-0006 *	SB-2 0-5	Metals, Hg		12/12/2006	1	8 oz glass	4 C	
	182-0006	SB-2	VOCs		12/12/2006	1	~~8~~ 4 oz glass	4 C	
	182-0006	SB-2	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13235	182-0007	SB-2 5-10	Metals, Hg		12/12/2006	1	8 oz glass	4 C	
	182-0007	SB-2	VOCs		12/12/2006	1	8 oz glass	4 C	
	182-0007	SB-2	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13236	182-0008	SB-2 10-15	Metals, Hg		12/12/2006	1	8 oz glass	4 C	
	182-0008	SB-2	VOCs		12/12/2006	1	8 oz glass	4 C	
	182-0008	SB-2	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13237	182-0009	SB-3 0-5	Metals, Hg		12/12/2006	1	8 oz glass	4 C	

020

* 1 Jar, for VOC analysis, arrived broken. JM 12/14/06 → Re-packed into a 4 oz Jar JM 12/14/06

Special Instructions: Send sample for ammonia/cn anlysis to EEU

A 15g aliquot was taken from sample 182-0006 from the Jar for BNA/Pest/PCB Analysis to use for VOC Analysis. JM 12/15/06

Received 2°C JM 12/14/06

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

★ PLEASE PROVIDE TICS ★

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
[illegible]	[signature]	12/13/06	[signature]	12/14/06	9:45	7 Jars / Metals Analysis	[signature]	12/14/06	[signature]	12/14/06	14:50 p.m
6 Jars / VOC Analysis	[signature]	12/14/06	[signature]	12-14-06	15:20	6 Jars / BNA Pest PCB Analysis	[signature]	12/15/06	[signature]	12/15/06	9:10
6/storage	[signature]	1/11/07	[signature]	1/11/07	9:00	VOA Storage	[signature]	1-11-07	[signature]	1/11/07	12:00

0182-DAR-022707

CHAIN OF CUSTODY RECORD

Site #: 182
Contact Name: tim macaluso
Contact Phone: 732 785 2913

No: 182-121306-01

EPA Contract #: EP-C-04-032

Lab: REAC Lab

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
13237	182-0009	SB-3 0-5 JM	VOCs	Soil JM	12/12/2006	1	8 oz glass	4 C	
↓	182-0009	SB-3 ↓	BNA, PCB, Pesticide	↓	12/12/2006	1	8 oz glass	4 C	
13238	182-0010	SB-3 5-10	Metals, Hg		12/12/2006	1	8 oz glass	4 C	
	182-0010	SB-3 ↓	VOCs		12/12/2006	1	8 oz glass	4 C	
↓	182-0010	SB-3 ↓	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13239	182-0011	SB-3 10-15	Metals, Hg		12/12/2006	1	8 oz glass	4 C	
	182-0011	SB-3 ↓	VOCs		12/12/2006	1	8 oz glass	4 C	
↓	182-0011	SB-3 ↓	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	JM
13240	182-0012	SB-3 15-20	Metals, Hg		12/12/2006	1	8 oz glass	4 C	
	182-0012 *	SB-3	VOCs		12/12/2006	1	~~8~~ 4 oz glass JM	4 C	
↓	182-0012 **	SB-3 ↓	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13241	182-0013	SB-4 0-5	Metals, Hg		12/12/2006	1	~~8~~ 4 oz glass JM	4 C	
	182-0013	SB-4	VOCs		12/12/2006	1	~~8~~ 4 oz glass JM	4 C	
↓	182-0013	SB-4 ↓	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13242	182-0014	SB-4 5-10	Metals, Hg		12/12/2006	1	~~8~~ 4 oz glass JM	4 C	
	182-0014	SB-4	VOCs		12/12/2006	1	~~8~~ 4 oz glass JM	4 C	
↓	182-0014	SB-4 ↓	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13243	182-0015	SB-4 10-15	Metals, Hg		12/12/2006	1	~~8~~ 4 oz glass JM	4 C	
↓	182-0015	SB-4 ↓	VOCs	↓	12/12/2006	1	~~8~~ 4 oz glass JM	4 C	

* Sample, for VOC's, arrived broken JM 12/14/06 → Re-packed into a 4 oz Jar JM 12/14/06
Special Instructions: Send sample for ammonia/cn anlysis to EEU. A 15g aliquot from the BNA/Pest/PCB Jar of sample 182-0012 for VOC Analysis JM 12/15/06 Received 2°C JM 12/14/06
** Lid of sample jar cracked JM 12/14/06
*** PLEASE PROVIDE TICS ***

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All part	[illegible]	12/13/06	[illegible]	12/14/06	9:45	6 Jars / Metals Analysis	[illegible]	12/14/06	[illegible]	12/14/06	14:50
7 Jars / VOC Analysis	[illegible]	12/14/06	[illegible]	12-14-06	15:20	6 Jars / BNA Pest/PCB Analysis	[illegible]	12/15/06	[illegible]	12/15/06	9:10
7/storage	[illegible]	1/11/07	[illegible]	1/11/07	9:00	VOA storage	[illegible]	1-11-07	[illegible]	1/11/07	12:00

021

Page

0182-DAR-022707

CHAIN OF CUSTODY RECORD

No: 182-121306-01

Site #: 182

EPA Contract #: ED-C-04-032

Contact Name: tim macaluso

Lab: REAC Lab

Contact Phone: 732 785 2913

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
13243	182-0015	SB-4 10-15 TM	BNA, PCB, Pesticide	Soil TM	12/12/2006	1	8 oz glass	4 C	
13244	182-0016	SB-4 15-20	Metals, Hg		12/12/2006	1	8 oz glass TM	4 C	
	182-0016	SB-4	VOCs		12/12/2006	1	8 oz glass TM	4 C	
	182-0016 *	SB-4	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13245	182-0017	SB-4 18-19	Ammonia (NH3) / CN TM		12/12/2006	1	8 oz glass	4 C	TM
13246	182-0018	SB-4	Metals, Hg		12/12/2006	1	8 oz glass TM	4 C	
	182-0018	SB-4	VOCs		12/12/2006	1	8 oz glass TM	4 C	
	182-0018 *	SB-4	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	

TM

* Lids of sample containers cracked TM 12/14/06

Special Instructions: Send sample for ammonia/cn anlysis to EEU (# 182-0017)

PLEASE PROVIDE TICS

Received 2°C TM 12/14/06

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All/Anal	[signature]	12/13/06	Jimmy Martin	12/14/06	9:45	2 Jars / Metals Analysis	Jimmy Martin	12/14/06	A H Bhatt	12/14/06	14:50
2 Jars / VOC Analysis	Jimmy Martin	12/14/06	J. Neuman	12-14-06	15:20	3 Jars / BNA Pest PCB Analysis	Jimmy Martin	12/15/06	[signature]	12/15/06	9:10
1 / Analysis	Jimmy Martin	12/15/06	[signature]	12/15/06	1457	2 / Storage	A H Bhatt	1/11/07	Jimmy Martin	1/11/07	9:00
VOA Storage	J. Neuman	1-11-07	Jimmy Martin	1/11/07	12:00						

022

0182-DAR-022707

CHAIN OF CUSTODY RECORD

No: 182-121306-02

Site #: 182

EPA Contract #: EP-C-04-032

Contact Name: tim macaluso

Lab: REAC Lab

Contact Phone: 732 785 2913

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
13247	182-0019	SB-6 8-9 (TM)	Cyanide EEU /(NH3) Ammonia JM	Soil JM	12/12/2006	1	8 oz glass	4 C	
13248	182-0020	SB-5 0-5	Metals, Hg		12/12/2006	1	4 ~~8~~ oz glass JM	4 C	
	182-0020	SB-5	VOCs		12/12/2006	1	4 ~~8~~ oz glass JM	4 C	
	182-0020	SB-5	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13249	182-0021	SB-6 0-5	Metals, Hg		12/12/2006	1	4 ~~8~~ oz glass JM	4 C	
	182-0021	SB-6	VOCs		12/12/2006	1	4 ~~8~~ oz glass JM	4 C	
	182-0021	SB-6	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13250	182-0022	SB-6 5-10	Metals, Hg		12/12/2006	1	4 ~~8~~ oz glass JM	4 C	
	182-0022	SB-6	VOCs		12/12/2006	1	4 ~~8~~ oz glass JM	4 C	
	182-0022	SB-6	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13251	182-0023	SB-6 10-15	Metals, Hg		12/12/2006	1	4 ~~8~~ oz glass JM	4 C	
	182-0023	SB-6	VOCs		12/12/2006	1	4 ~~8~~ oz glass JM	4 C	
	182-0023	SB-6	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13252	182-0024	SB-6 15-20	Metals, Hg		12/12/2006	1	4 ~~8~~ oz glass JM	4 C	
	182-0024	SB-6	VOCs		12/12/2006	1	4 ~~8~~ oz glass JM	4 C	
	182-0024	SB-6	BNA, PCB, Pesticide		12/12/2006	1	8 oz glass	4 C	
13253	182-0026 *	SB-7 0-5	Metals, Hg		12/13/2006	1	4 ~~8~~ oz glass JM	4 C	
	182-0026	SB-7	VOCs		12/13/2006	1	4 ~~8~~ oz glass JM	4 C	
	182-0026	SB-7	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	

023

Special Instructions: send sample for ammonia/cn analysis to EEU (Sample # 182-0019)

* Date on sample label is 12/12/06 JM 12/14/06

Received 2°C JM 12/14/06

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All/Anal	[signature]	12/13/06	[signature]	12/14/06	9:45	6 Jars / Metals Analysis	[signature]	12/14/06	[signature]	12/14/06	14:50
6 Jars / VOC Analysis	[signature]	12/14/06	[signature]	12-14-06	15:20	6 Jars / BNA Pest/PCB Analysis	[signature]	12/15/06	[signature]	12/15/06	9:10
1 / Analysis	[signature]	12/15/06	[signature]	12/15/06	1457	6 storage	[signature]	1/11/07	[signature]	1/11/07	9:00
VOA Storage	[signature]	1-11-07	[signature]	1/11/07	12:00						

0182-DAR-022707

CHAIN OF CUSTODY RECORD

Site #: 182

Contact Name: tim macaluso

Contact Phone: 732 785 2913

EPA Contract #: EP-C-04-032

No: 182-121306-02

Lab: REAC Lab

Lab #	Sample #	Location	Analyses	Matrix	Collected *	Numb Cont	Container	Preservative	MS/MSD
13254	182-0027 **	SB-7 5-10	Metals, Hg	Soil	12/13/2006	1	4 8 oz glass	4 C	
↓	182-0027	SB-7 ↓	VOCs		12/13/2006	1	4 8 oz glass	4 C	
	182-0027	SB-7	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13255	182-0028	SB-7 10-15	Metals, Hg		12/13/2006	1	4 8 oz glass	4 C	
↓	182-0028	SB-7 ↓	VOCs		12/13/2006	1	4 8 oz glass	4 C	
	182-0028	SB-7	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13256	182-0029	SB-8 0-5	Metals, Hg		12/13/2006	1	4 8 oz glass	4 C	
↓	182-0029	SB-8 ↓	VOCs		12/13/2006	1	4 8 oz glass	4 C	
	182-0029	SB-8	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13257	182-0030	SB-8 5-10	Metals, Hg		12/13/2006	1	4 8 oz glass	4 C	
↓	182-0030	SB-8 ↓	VOCs		12/13/2006	1	4 8 oz glass	4 C	
	182-0030	SB-8	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13258	182-0031	SB-8 10-15	Metals, Hg		12/13/2006	1	4 8 oz glass	4 C	
↓	182-0031	SB-8 ↓	VOCs		12/13/2006	1	4 8 oz glass	4 C	
	182-0031	SB-8	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13259	182-0032	SB-9 0-5	Metals, Hg		12/13/2006	1	4 8 oz glass	4 C	
↓	182-0032	SB-9 ↓	VOCs		12/13/2006	1	4 8 oz glass	4 C	
	182-0032	SB-9	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13260	182-0033	SB-9 5-10	Metals, Hg	↓	12/13/2006	1	4 8 oz glass	4 C	

*Collection date on sample labels is 12/12/06 TM 12/14/06

Special Instructions: send sample for ammonia/cn analysis to EEU

** Lid of sample container arrived cracked TM 12/14/06

Received 2°C TM 12/14/06

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All [illegible]	[signature]	12/13/06	Tommy Martin	12/14/06	9:45	7 Jars / Metals Analysis	Tommy Martin	12/14/06	[signature]	12/14/06	14:50
6 Jars / VOC Analysis	Tommy Martin	12/14/06	Y. Neuse	12-14-06	15:20	6 Jars / BNA Pest/PCB Analysis	Tommy Martin	12/15/06	[signature]	12/15/06	9:10
4 Storage	[signature]	1/11/07	Tommy Martin	1/11/07	9:00	VOA Storage	Y. Neuse	1-11-07	Tommy Martin	1/11/07	12:00

024

0182-DAR-022707

CHAIN OF CUSTODY RECORD

Site #: 182

Contact Name: tim macaluso

Contact Phone: 732 785 2913

EPA Contract #: EP-C-04-032

No: 182-121306-02

Lab: REAC Lab

Lab #	Sample #	Location	Analyses	Matrix	Collected *	Numb Cont	Container	Preservative	MS/MSD
13260	182-0033	SB-9 5-10	VOCs	Soil JM	12/13/2006	1	4 8 oz glass JM	4 C	
↓	182-0033	SB-9 ↓	BNA, PCB, Pesticide	↓	12/13/2006	1	8 oz glass	4 C	
13261	182-0034	SB-10 0-5	Metals, Hg		12/13/2006	1	4 8 oz glass JM	4 C	
↓	182-0034	SB-10 ↓	VOCs		12/13/2006	1	4 8 oz glass JM	4 C	
	182-0034	SB-10	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13262	182-0035	SB-10 5-10	Metals, Hg		12/13/2006	1	4 8 oz glass JM	4 C	
↓	182-0035	SB-10 ↓	VOCs		12/13/2006	1	4 8 oz glass JM	4 C	
	182-0035	SB-10	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13263	182-0036	SB-10 10-15	Metals, Hg		12/13/2006	1	4 8 oz glass JM	4 C	
↓	182-0036	SB-10 ↓	VOCs		12/13/2006	1	4 8 oz glass JM	4 C	
	182-0036	SB-10	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	

025

* Collection date on sample labels is 12/12/06 JM 12/14/06

Special Instructions: send sample for ammonia/cn analysis to EEU

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Received 2°C JM 12/14/06

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All mod	[signature]	12/13/06	Tommy Martin	12/14/06	9:45	3 Jars / Metals Analysis	Tommy Martin	12/14/06	NHBhatt	12/14/06	14:50
4 Jars / VOC Analysis	Tommy Martin	12/14/06	J. Nemesh	12-14-06	15:20	4 Jars / BNA Pest/PCB Analysis	Tommy Martin	12/15/06	[signature]	12/15/06	9:10
1/storage	NHBhatt	1/11/07	Tommy Martin	1/11/07	9:00	VOA storage	J. Nemesh	1-11-07	Tommy Martin	1/11/07	12:00

0182-DAR-022707

CHAIN OF CUSTODY RECORD

No: 182-121306-03

Site #: 182

EPA Contract #: EP-C-04-032

Contact Name: tim macaluso

Contact Phone: 732 785 2913

Lab: REAC Lab

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
13264	182-0037	SB-12 0-5	Metals, Hg	Soil	12/13/2006	1	8 oz glass	4 C	
	182-0037	SB-12	VOCs		12/13/2006	1	8 oz glass	4 C	
	182-0037	SB-12	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13265	182-0038	SB-13 0-4	Metals, Hg		12/13/2006	1	8 oz glass	4 C	
	182-0038	SB-13	VOCs		12/13/2006	1	8 oz glass	4 C	
	182-0038	SB-13	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13266	182-0039	SB-13 5-10	Metals, Hg		12/13/2006	1	8 oz glass	4 C	
	182-0039	SB-13	VOCs		12/13/2006	1	8 oz glass	4 C	
	182-0039	SB-13	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13267	182-0040	SB-14 0-5	Metals, Hg		12/13/2006	1	8 oz glass	4 C	
	182-0040	SB-14	VOCs		12/13/2006	1	8 oz glass	4 C	
	182-0040	SB-14	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13268	182-0041	SB-15 0-5	Metals, Hg		12/13/2006	1	8 oz glass	4 C	
	182-0041	SB-15	VOCs		12/13/2006	1	8 oz glass	4 C	
	182-0041	SB-15	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13269	182-0042	SB-16 0-5	Metals, Hg		12/13/2006	1	8 oz glass	4 C	
	182-0042	SB-16	VOCs		12/13/2006	1	8 oz glass	4 C	
	182-0042	SB-16	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13270	182-0043	SB-16 5-10	Metals, Hg		12/13/2006	1	8 oz glass	4 C	

026

Special Instructions:

Received 2a 12/14/06

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All Analysis		12/13/06		12/14/06	9:45	7 Jars / Metals Analysis		12/14/06		12/14/06	14:50
6 Jars / VOC Analysis		12/14/06		12-14-06	15:20	6 Jars / BNA Pest/PCB Analysis		12/15/06		12/15/06	9:10
6/storage		1/11/07		1/11/07	9:00	VOA Storage		1-11-07		1/11/07	12:00

0182-DAR-022707

CHAIN OF CUSTODY RECORD

No: 182-121306-03

Site #: 182

EPA Contract #: EP-C-04-032

Contact Name: tim macaluso

Contact Phone: 732 785 2913

Lab: REAC Lab

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
13270	182-0043	SB-16 5-10	VOCs	Soil	12/13/2006	1	8 oz glass	4 C	
	182-0043	SB-16	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13271	182-0044	SB-16 10-15	Metals, Hg		12/13/2006	1	8 oz glass	4 C	
	182-0044	SB-16	VOCs		12/13/2006	1	8 oz glass	4 C	
	182-0044	SB-16	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	
13272	182-0045	SB-16 15-20	Metals, Hg		12/13/2006	1	8 oz glass	4 C	
	182-0045	SB-16	VOCs		12/13/2006	1	8 oz glass	4 C	
	182-0045	SB-16	BNA, PCB, Pesticide		12/13/2006	1	8 oz glass	4 C	

Special Instructions:

Received 2°C JM 12/14/06

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All Analysis	[illegible]	12/13/06	Jimmy Martin	12/14/06	9:45	2 Jars / Metals Analysis	Jimmy Martin	12/14/06	[illegible]	12/14/06	14:50
3 Jars / VOC Analysis	Jimmy Martin	12/14/06	J. Nemec	12/14/06	15:20	3 Jars / BNA Pest PCB Analysis	Jimmy Martin	12/15/06	[illegible]	12/15/06	9:10
3/5 storage	[illegible]	1/11/07	Jimmy Martin	1/11/07	9:00	VOA Storage	J. Nemec	1-11-07	Jimmy Martin	1/11/07	12:00

027

0182-DAR-022707

CHAIN OF CUSTODY RECORD

No: 182-121406-04

Site #: 182

EPA Contract #: EP-C-04-032

Contact Name: tim macaluso

Contact Phone: 732 785 2913

Lab: REAC Lab

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
13273	182-0047	SB-17 0-5	Metals, Hg	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0047	SB-17	VOCs	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0047	SB-17 ↓	BNA, PCB, Pesticide	Soil	12/14/2006	1	8 oz glass	4 C	
13274	182-0048	SB-18 0-5	Metals, Hg	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0048	SB-18	VOCs	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0048	SB-18 ↓	BNA, PCB, Pesticide	Soil	12/14/2006	1	8 oz glass	4 C	
13275	182-0049	SB-18 5-10	Metals, Hg	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0049	SB-18	VOCs	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0049	SB-18 ↓	BNA, PCB, Pesticide	Soil	12/14/2006	1	8 oz glass	4 C	
13276	182-0050	SB-18 10-15	Metals, Hg	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0050	SB-18	VOCs	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0050	SB-18 ↓	BNA, PCB, Pesticide	Soil	12/14/2006	1	8 oz glass	4 C	
13277	182-0052	SB-19 0-5	Metals, Hg	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0052	SB-19	VOCs	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0052	SB-19 ↓	BNA, PCB, Pesticide	Soil	12/14/2006	1	8 oz glass	4 C	
13278	182-0053	SB-20 0-5	Metals, Hg	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0053	SB-20	VOCs	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0053	SB-20 ↓	BNA, PCB, Pesticide	Soil	12/14/2006	1	8 oz glass	4 C	
13279	182-0054	SB-21 0-5	Metals, Hg	Soil	12/14/2006	1	8 oz glass	4 C	

Special Instructions: Send soil sample 182-0056 to EEU
PLEASE PROVIDE TICS

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Received 2°C

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All Anal	[signature]	12/14/06	[signature]	12/15/06	10:00	6/ VOA Analysis	[signature]	12/15/06	[signature]	12-15-06	15:00
7/ Metals Analysis	[signature]	12/15/06	[signature]	12/15/06	15:15	6/ BNA, Pest/RB Analysis	[signature]	12/18/06	[signature]	12/18/06	10:00
7/storage	[signature]	1/11/07	[signature]	1/11/07	9:00	VOA Storage	[signature]	1-11-07	[signature]	1/11/07	12:00

028

0182-DAR-022707

CHAIN OF CUSTODY RECORD

No: 182-121406-04

Site #: 182

EPA Contract #: EP-C-04-032

Contact Name: tim macaluso

Contact Phone: 732 785 2913

Lab: REAC Lab

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
13279	182-0054	SB-21 0-5	VOCs	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0054	SB-21 ↓	BNA, PCB, Pesticide	Soil	12/14/2006	1	8 oz glass	4 C	
13280	182-0055	SB-21 10-15	Metals, Hg	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0055	SB-21	VOCs	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0055	SB-21 ↓	BNA, PCB, Pesticide	Soil	12/14/2006	1	8 oz glass	4 C	
13281	182-0064	SB-22 0-2	Metals, Hg	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0064	SB-22	VOCs	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0064	SB-22 ↓	BNA, PCB, Pesticide	Soil	12/14/2006	1	8 oz glass	4 C	
13282	182-0065	SB-23 0-2	Metals, Hg	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0065	SB-23	VOCs	Soil	12/14/2006	1	8 oz glass	4 C	
↓	182-0065	SB-23 ↓	BNA, PCB, Pesticide	Soil	12/14/2006	1	8 oz glass	4 C	
13283	182-0066	SB-24 0-0.3	BNA	Soil	12/14/2006	1	8 oz glass	4 C	

029

Special Instructions: Send soil sample 182-0056 to EEU
PLEASE PROVIDE TICS

Received 22 Jm 12/15/06

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All/[illegible]	[illegible]	12/14/06	[illegible]	12/15/06	10:00	4/VOA	[illegible]	12/15/06	[illegible]	12-15-06	15:00
3/Metals Analysis	[illegible]	12/15/06	[illegible]	12/15/06	15:15	5/BNA/Pest/PCB Analysis	[illegible]	12/18/06	[illegible]	12/18/06	10:[illegible]
3/storage	[illegible]	1/11/07	[illegible]	1/11/07	9:00	VOA Storage	[illegible]	1-11-07	[illegible]	1/11/07	12:00

0182-DAR-022707

CHAIN OF CUSTODY RECORD

No: 182-121506-09

Site #: 182

EPA Contract #: EP-C-04-032

Contact Name: tim macaluso

Contact Phone: 732 785 2913

Lab: REAC Lab

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
13306	182-0068	Inside Pile	Metals, Hg	Soil	12/15/2006	1	4 oz glass	4 C	
	182-0068	Inside Pile	VOCs	Soil	12/15/2006	1	4 oz glass	4 C	
	182-0068	Inside Pile	BNA, PCB, Pesticide	Soil	12/15/2006	1	8 oz glass	4 C	
	182-0068	Inside Pile	EEU	Soil	12/15/2006	1	bag	4 C	
13307	182-0069	Boiler Dust E	Metals, Hg	Soil	12/15/2006	1	8 oz glass	4 C	
	182-0069	Boiler Dust E	BNA, PCB, Pesticide	Soil	12/15/2006	1	8 oz glass	4 C	
13308	182-0070	Boiler Dust W	Metals, Hg	Soil	12/15/2006	1	8 oz glass	4 C	
	182-0070	Boiler Dust W	BNA, PCB, Pesticide	Soil	12/15/2006	1	8 oz glass	4 C	
13309	182-0071	Inside Stack	BNA, PCB, Pesticide	Soil	12/15/2006	1	8 oz glass	4 C	

030

Special Instructions: PLEASE PROVIDE TICS

Received 2°C JM 12/16/06

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
N/ Anal	[signature]	12/15/06	[signature]	12/16/06	13:05	3 Jars / Metals Analysis	[signature]	12/18/06	NABhatt	12/18/06	8:50
1/ VOA	[signature]	12/18/06	[signature]	12-18-06	9:30	4/ BNA/Pest/PCB Analysis	[signature]	12/18/06	[signature]	12/18/06	10:00
Storage	NABhatt	01/11/07	[signature]	1/11/07	9:00	VOA Storage	[signature]	1-11-07	[signature]	1/11/07	12:00

0182-DAR-022707

CHAIN OF CUSTODY RECORD

Site #: 182

Contact Name: tim macaluso

Contact Phone: 732 785 2913

No: 182-121406-07

EPA Contract #: EP-C-04-032

Lab: REAC Lab

Lab #	Sample #	Location	Analyses *	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
13384	182-0025	TW-2	Metals	GW	12/14/2006	1	1 L poly	HNO	N
13385	182-0058	TW-1	Metals	GW	12/14/2006	1	1 L poly	HNO	N
	182-0058	TW-1	VOCs	GW	12/14/2006	3	40 ml VOA	4 C	N
	182-0058	TW-1	PCBs	GW	12/14/2006	1	1 liter amber	4 C	N
✓	182-0058	TW-1	BNA	GW	12/14/2006	1	1 liter amber	4 C	N
13386	182-0059	TW-5	Metals	GW	12/14/2006	1	1 L poly	HNO	N
	182-0059	TW-5	VOCs	GW	12/14/2006	3	40 ml VOA	4 C	N
	182-0059	TW-5	PCBs	GW	12/14/2006	1	1 liter amber	4 C	N
✓	182-0059	TW-5	BNA	GW	12/14/2006	1	1 liter amber	4 C	N
13387	182-0060	BKGND	Metals	GW	12/14/2006	1	1 L poly	HNO	N
	182-0060	BKGND	VOCs	GW	12/14/2006	3	40 ml VOA	4 C	N
	182-0060	BKGND	PCBs	GW	12/14/2006	1	1 liter amber	4 C	N
✓	182-0060	BKGND	BNA	GW	12/14/2006	1	1 liter amber	4 C	N
13388	182-0061	Strm	Metals	GW	12/14/2006	1	1 L poly	HNO	N
	182-0061	Strm	VOCs	GW	12/14/2006	3	40 ml VOA	4 C	N
	182-0061	Strm	PCBs	GW	12/14/2006	1	1 liter amber	4 C	N
✓	182-0061	Strm	BNA	GW	12/14/2006	1	1 liter amber	4 C	N
13389	182-0062	Mayo	Metals	GW	12/14/2006	1	1 L poly	HNO	N
✓	182-0062	Mayo	VOCs	GW	12/14/2006	3	40 ml VOA	4 C	N

Special Instructions: * Metals includes Hg, All ~~BNA~~ PCB Samples are to be analyzed for pestiridcs as per Tim Macaluso. 12/15/06
PLEASE PROVIDE TENT. IDENTIFIED COMPOUNDS (TICS) FOR ALL SAMPLES

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All		12/14/06		12/15/06	16:00	5/ VOA		12/15/06		12-15-06	15:00
6/ Metals Analysis		12/15/06		12/15/06	15:15	4/ BNA, Pest/PCB Analysis		12/21/06		12-21-06	9:00
6/ storage		01/11/07		1/11/07	9:00	VOA Storage		1-11-07		1/11/07	12:00

031

0182-DAR-022707

CHAIN OF CUSTODY RECORD

No: 182-121406-07

Site #: 182

EPA Contract #: EP-C-04-032

Contact Name: tim macaluso

Contact Phone: 732 785 2913

Lab: REAC Lab

Lab #	Sample #	Location	Analyses *	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
13281	182-0062	Mayo	PCBs	GW	12/14/2006	2	1 liter amber	4 C	Y
✓	182-0062	Mayo	BNA	GW	12/14/2006	2	1 liter amber	4 C	Y
13290	182-0063	Mayo-dup	Metals	GW	12/14/2006	1	1 L poly	HNO	N
	182-0063	Mayo-dup	VOCs	GW	12/14/2006	3	40 ml VOA	4 C	Y
	182-0063	Mayo-dup	PCBs	GW	12/14/2006	1	1 liter amber	4 C	N
✓	182-0063	Mayo-dup	BNA	GW	12/14/2006	1	1 liter amber	4 C	N
13291	182-0067	leachate	Metals	GW	12/14/2006	1	1 L poly	HNO	N
	182-0067	leachate	VOCs	GW	12/14/2006	3	40 ml VOA	4 C	N
	182-0067	leachate	PCBs	GW	12/14/2006	1	1 liter amber	4 C	N
✓	182-0067	leachate	BNA	GW	12/14/2006	1	1 liter amber	4 C	N

032

* Metals includes Hg, All PCB Samples are to be analyzed for pesticides as per Tim. Macaluso. JM 12/15/06

Special Instructions:

PLEASE PROVIDE TIC'S

Received 2°C JM 12/15/06

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
1/Ant	[signature]	12/14/06	[signature]	12/15/06	10:00	2 JM VOA	[signature]	12/15/06	[signature]	12-15-06	15:00
2/Metals Analysis	[signature]	12/15/06	[signature]	12/15/06	15:15	3/BNA, Pest/PCB Analysis	[signature]	12/21/06	[signature]	12/21/06	9:00
2/storage	[signature]	1/11/07	[signature]	1/11/07	9:00	VOA Storage	[signature]	1-11-07	[signature]	1/11/07	12:00

0182-DAR-022707

CHAIN OF CUSTODY RECORD

No: 182-121506-08

Site #: 182

EPA Contract #: EP-C-04-032

Contact Name: tim macaluso

Contact Phone: 732 785 2913

Lab: REAC Lab

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
13310	182-0072	TW-2	VOCs	GW	12/15/2006	3	40	4 C	N
13311	182-0073	TW-7	Metals, Hg	GW	12/15/2006	1	1 L poly	HNO	N
	182-0073	TW-7	VOCs	GW	12/15/2006	3	40 ml VOA	4 C	N
	182-0073	TW-7	PCBs Post.	GW	12/15/2006	1	1 liter amber	4 C	N
	182-0073	TW-7	BNA, ~~pesticides~~	GW	12/15/2006	1	1 liter amber	4 C	N
13312	182-0074	Pond	Metals, Hg	GW	12/15/2006	1	1 L poly	HNO	N
	182-0074	Pond	VOCs	GW	12/15/2006	3	40 ml VOA	4 C	N
	182-0074	Pond	PCBs Post	GW	12/15/2006	1	Plastic Jar	4 C	N
	182-0074	Pond	BNA, ~~pesticides~~	GW	12/15/2006	1	1 liter amber	4 C	N
13313	182-0077	Blank	Metals, Hg	GW	12/15/2006	1	1 L poly	HNO	N
	182-0077	Blank	VOCs	GW	12/15/2006	2	40 ml VOA	4 C	N
	182-0077	Blank	PCBs Post.	GW	12/15/2006	1	Plastic Jar	4 C	N
	182-0077	Blank	BNA, ~~pesticides~~	GW	12/15/2006	1	Plastic Jar	4 C	N

Special Instructions: Plant Reactor TCS

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Received 20C JM 12/16/06

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All/Anal	[signature]	12/15/06	[signature]	12/16/06	13:05	3 Jars/Metals Analysis	[signature]	12/18/06	[signature]	12/18/06	8 50
4/VOA	[signature]	12/18/06	[signature]	12-18-06	9:30	3/BNA, Pest/PCB Analysis	[signature]	12/21/06	[signature]	12/21/06	9:00
4/storage	NABhatt	01/11/07	[signature]	1/11/07	9:00	VOA Storage	[signature]	1-11-07	[signature]	1/11/07	12:00

033

A[redacted]son, [redacted]
2) 321-4200
A Contract ~~68-C04-223~~ JM
182-DAR-022707 EP-C-04-032

CHAIN OF CUSTODY RECORD

Project Name: Smokey M Smelter
Project Number: 182
LM Contact: T. Macalvso Phone: 732-785-2413

No: 01959
Sheet 01 of 01 (Do not copy)
(for addnl. samples use new form)

Sample Identification | **Analyses Requested**

REAC#	Sample No	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	Tal Metals*	PCB Pesticides	BNA	VOC's
5292	182-0075	Spring 2	GW	12/14/06	1	1L Poly, HNO_3 pH<2, 4°C	✓			
↓	↓	↓	↓	↓	1	1L Amber, 4°C		✓		
					1	" "			✓	
↓	↓	↓	↓	↓	3	40ml Vial, 4°C				✓

034

atrix: *Includes Hg

Special Instructions:

Air
-Animal Tissue
- Drum Liquids
- Drum Solids
V- Groundwater
Oil
-Product
-Plant Tissue

PW- Potable Water
S- Soil
SD- Sediment
SL- Sludge
SW- Surface Water
TX-TCLP Extract
W- Water
X- Other

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #:

Received 2°C JM

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
			[illegible]	12/15/06	10:00	1/ VOA	[illegible]	12/15/06	[illegible]	12-15-06	15:00
Metals Analysis	[illegible]	12/15/06	NABhw	12/15/06	15:15	BNA/Pest/PCB	[illegible]	12/21/06	[illegible]	12/21/06	9:00
[illegible]	NABhw	1/11/07	[illegible]	1/11/07	9:00	VOA Stor.	[illegible]	1-11-07	[illegible]	1/11/07	12:00

S. GPO: 2000-521-151