Analytical Results (Qualified Data)

Case #: 30394
Site :
Lab. :
Reviewer
Date :

SDG : ME00S1
CHEMECTO
AATS

US EPA RECORDS CENTER REGION 5
443727

Number of Soil Samples : 12
Number of Water Samples : 0

Sample Number :	ME00S1		ME00S2		ME00S3		ME00S4		ME00S5	
Sampling Location :	X513		X514		X515		X501		X502	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	04/16/2002		04/16/2002		04/16/2002		04/16/2002		04/16/2002	
Time Sampled :	11:50		11:30		11:40		12:50		12:50	
%Solids :	96.0		86.3		93.6		98.6		98.4	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	8410		5760		16900		16100		14900	
ANTIMONY	0.99	R	38.6	J	1.1	R	1.0	R	1.0	R
ARSENIC	14.0	J	14.4	J	7.1	J	2.7	J	2.2	J
BARIUM	539		439		395		983		906	
BERYLLIUM	18.9	J	11.8	J	38.9	J	57.3	J	54.1	J
CADMIUM	63.6	J	134	J	63.9	J	62.7	J	66.1	J
CALCIUM	59500		50700		51700		11300		10600	
CHROMIUM	57.4		36.3		85.6		122		99.6	
COBALT	42.1		37.6		84.1		200		186	
COPPER	28500		31800		6740	J	8610	J	6160	J
IRON	74900		51000		140000		273000		256000	
LEAD	6220	J		M	11400	J	16300		15400	
MAGNESIUM	4850		5850		10500		4630		3570	
MANGANESE	1010		790		2140		2880	J	2740	J
MERCURY	0.43		0.29		0.13		0.050	U	0.050	U
NICKEL	693		298		793		846		690	
POTASSIUM	1080		797		1610		1280		1270	
SELENIUM	1.5	J	1.1	U	1.4	J	1.0	U	1.0	U
SILVER	3.2	J	20.8	J	0.21	UJ	0.20	UJ	0.20	UJ
SODIUM	1660		1430		2180	J	7060	J	6970	J
THALLIUM	2.4		1.7		5.4		8.7		7.1	
VANADIUM	14.2		13.5		33.1		12.5		10.7	
ZINC	26400		26800		34500		78500		72900	
CYANIDE	0.49	J	0.87	J	0.52	J	0.10	UJ	0.10	UJ

DISCLAIMER: This package has been electronically assessed as an added service to our customer. It has not been either validated or approved by Region 5 and any subsequent use by the data user is strictly at the risk of the data user. Region 5 assumes no responsibility for use of unvalidated data.

Analytical Results (Qualified Data)

Case #: 30394 SDG : ME00S1
Site : CHEMECTO
Lab. : AATS
Reviewer :
Date :

Sample Number :	ME00S6		ME00S7		ME00S8		ME00S9		ME00T0	
Sampling Location :	X503		X504		X505		X506		X507	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	04/16/2002		04/16/2002		04/16/2002		04/16/2002		04/16/2002	
Time Sampled :	12:40		13:00		13:20		13:30		13:40	
% Solids :	96.5		99.5		92.6		48.3		99.5	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	15600		16500		8920		9040		3300	
ANTIMONY	0.99	R	0.96	R	4.6	J	578	J	1450	J
ARSENIC	1.6	J	0.77	UJ	188	J	242	J	110	J
BARIUM	905		1040		777		993		403	
BERYLLIUM	90.9	J	110	J	39.0	J	25.2	J	5.0	J
CADMIUM	7.9	J	3.8	J	793	J	2970	J	180	J
CALCIUM	9440		9430		15700		16500		4440	
CHROMIUM	170		188		54.5		64.8		27.6	
COBALT	203		142		70.1		45.0		31.4	
COPPER	5900	J	3870	J	27900		97700	J	192000	J
IRON	264000		247000		68900		22000		31900	
LEAD	9810	J	7800	J	29400		152000		116000	J
MAGNESIUM	3660		3540		4780		2600		1010	
MANGANESE	2330	J	2490	J	1480		821		466	
MERCURY	0.050	U	0.050	U	2.7		26.6		0.35	
NICKEL	609		410		966		5000	J	5820	J
POTASSIUM	1120		1130		863		548		310	
SELENIUM	0.99	U	0.96	U	12.8	J	32.6	J	3.4	J
SILVER	0.20	UJ	0.19	UJ	17.7	J	62.1	J	49.5	J
SODIUM	6660	J	5830	J	1200		8880	J	2950	J
THALLIUM	10.5		11.9		1.1	U	3.8		0.96	U
VANADIUM	13.2		15.1		18.7		15.0		2.4	
ZINC	73100		71000		79100		217000	J	17200	
CYANIDE	0.10	UJ	0.10	UJ	0.24	J	0.21	UJ	1.3	J

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Analytical Results (Qualified Data)

se #: 30394
e :
). :
viewer :
te

SDG : ME00S1
CHEMECTO
AATS

mple Number :	ME00T1		ME00T2		ME00T2D		ME00T2S			
mpling Location :	X508		X509		X509		X509			
atrix :	Soil		Soil		Soil		Soil			
its :	mg/Kg		mg/Kg		mg/Kg		mg/Kg			
ite Sampled :	04/16/2002		04/16/2002		04/16/2002		04/16/2002			
ne Sampled :	13:50		13:55		13:55		13:55			
Solids :	98.7		93.7		93.7		93.7			
ution Factor :	1.0		1.0		1.0		1.0			
NALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
UMINUM	9090		5110		5830					
ITIMONY	0.99	R	1.1	R	1.1	R	27.2			
ISENIC	4.6	J	6.9	J	6.7	J	12.9			
RIUM	403		390		386		759			
RYLLIUM	60.4	J	33.1	J	35.2	J	50.2			
DMIUM	18.6	J	23.4	J	25.8	J	30.4			
LCIUM	13400		11700		13500					
ROMIUM	136		62.1		62.2		108			
BALT	132		116		130		220			
PPER	5450	J	6630	J	6430		7250			
ON	196000		152000		186000					
AD	6790	J	7940	J	9650		8360			
GNESIUM	6550		4220		5280					
NGANESE	2140	J	1960		2120		2170			
RCURY	0.060		0.11		0.11		0.55			
CKEL	451		587		580		685			
TASSIUM	787		955		1070					
LENIUM	0.99	U	2.3	J	3.0	J	5.8			
VER	0.20	UJ	0.21	UJ	0.30	J	5.3			
DIUM	3030	J	2390	J	2730					
ALLIUM	11.2		13.5		14.0		22.9			
NADIUM	9.0		4.0		4.6		103			
NC	62000		63200		76800		65800			
ANIDE	0.10	UJ	0.11	UJ	0.11	UJ	3.9			

SCLAIMER: This package has been electronically assessed as an added service to our customer. It has not been either
dated or approved by Region 5 and any subsequent use by the data user is strictly at the risk of the data user.
gion 5 assumes no respons bility for use of unvalidated data.

USEPA Contract Laboratory Program
Inorganic Traffic Report

DAS No:
SDG No: ME00Q51

L

Date Shipped: 4/16/02 Carrier Name: UPS Airbill: 1Z6215892210020262 Shipped to: American Analytical & Technical Services, Inc. 1700 West Albany Suite C Broken Arrow OK 74012 (918) 251-0545	Date Received/Received by: 4/17/02 Lab Contract No: 68-W-00-056 Unit Price: 166.75 Transfer To: Date Received/Received By: Lab Contract No: Price:	Sampler (Signature): Bruce Everetts Relinquished By: Bruce Everetts Relinquished By: Relinquished By:	Date / Time: 4-16-02/1500 Date / Time: 4-17-02 9:00 Date / Time:
			Received By: Received By: Received By:

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
ME00R6	Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-100800 (Ice Only) (1)	X209	4/15/02 15:20		
ME00R7	Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-100801 (Ice Only) (1)	X210	4/15/02 15:00		
ME00R8	Soil/ Bruce Everetts	L/G	TM/CN (21)	5-100802 (Ice Only) (1)	X101	4/16/02 11:00		
ME00R9	Waste/ Bruce Everetts	L/G	TM/CN (21)	5-100803 (Ice Only) (1)	X511	4/16/02 12:00		
ME00S0	Waste/ Bruce Everetts	L/G	TM/CN (21)	5-100804 (Ice Only) (1)	X512	4/16/02 12:10		
ME00S1	Waste/ Bruce Everetts	L/G	TM/CN (21)	5-100805 (Ice Only) (1)	X513	4/16/02 11:50		
ME00S2	Waste/ Bruce Everetts	L/G	TM/CN (21)	5-100806 (Ice Only) (1)	X514	4/16/02 11:30		
ME00S3	Waste/ Bruce Everetts	L/G	TM/CN (21)	5-100807 (Ice Only) (1)	X515	4/16/02 11:40		
ME00S4	Waste/ Bruce Everetts	L/G	TM/CN (21)	5-100982 (Ice Only) (1)	X501	4/16/02 12:50		
ME00S5	Waste/ Bruce Everetts	L/G	TM/CN (21)	5-100983 (Ice Only) (1)	X502	4/16/02 12:50		
ME00S6	Waste/ Bruce Everetts	L/G	TM/CN (21)	5-100984 (Ice Only) (1)	X503	4/16/02 12:40		
ME00S7	Waste/ Bruce Everetts	L/G	TM/CN (21)	5-100985 (Ice Only) (1)	X504	4/16/02 13:00		
ME00S8	Waste/ Bruce Everetts	L/G	TM/CN (21)	5-100986 (Ice Only) (1)	X505	4/16/02 13:20		
ME00S9	Waste/ Bruce Everetts	L/G	TM/CN (21)	5-100987 (Ice Only) (1)	X506	4/16/02 13:30		
ME00T0	Waste/ Bruce Everetts	L/G	TM/CN (21)	5-100988 (Ice Only) (1)	X507	4/16/02 13:40		

COPY
ORIGINAL DOCUMENTS ARE INCLUDED IN
CSF
SDG ME00Q51
Signature
Date 4/19/02

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: ME 00 Q3	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 4.3°C	Chain of Custody Seal Number: 8143
Analysis Key: TM/CN = CLP TAL Total Metals and Cyanide	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Y / Shipment Iced? Y

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy Contract Laboratory Analytical Services Support, 2000 Edmund Halley Dr., Reston 20191-3436 Phone 703/264-9348 Fax 703/264-9222

TR Number: 5-055166947-041602-0002

411

USEPA Contract Laboratory Program
Inorganic Traffic Report

Case No: 30394
DAS No:
SDG No: ME0051

L

Date Shipped: 4/16/02 Carrier Name: UPS Airbill: 1Z6215892210020262 Shipped to: American Analytical & Technical Services, Inc. 1700 West Albany Suite C Broken Arrow OK 74012 (918) 251-0545	Date Received/Received by: 4/18/02 Lab Contract No: 6 Sa 22 Sa Unit Price: 116.75 Transfer To: Date Received/Received By: Lab Contract No: Price:	Sampler (Signature): Bruce Everetts Bruce Everetts	
		Relinquished By: Bruce Everetts	Date / Time: 4-16-02/1500 — Received By:
		Relinquished By:	Date / Time: 4/17/02 9:30 — Received By:
		Relinquished By:	Date / Time: — Received By:

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
ME00T1	Waste/ Bruce Everetts	L/G	TM/CN (21)	5-100989 (Ice Only) (1)	X508	4/16/02 13:50		
ME00T2	Waste/ Bruce Everetts	L/G	TM/CN (21)	5-100990 (Ice Only) (1)	X509	4/16/02 13:55		

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: ME 00Q3	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 4.3°C	Chain of Custody Seal Number: 8143P
Analysis Key: TM/CN = CLP TAL Total Metals and Cyanide	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? Y	Shipment Iced? Y

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Contract Laboratory Analytical Services Support, 2000 Edmund Halley Dr., Reston, VA. 20191-3436 Phone 703/264-9348 Fax 703/264-9222

TR Number: 5-055166947-041602-0002

412

AMERICAN ANALYTICAL & TECHNICAL SERVICES, INC
1700 West Albany / Broken Arrow, Oklahoma 74012 / Office (918) 251-2858 / Fax (918) 251-2599

SDG NARRATIVE

CONTRACT: 68W00086
CASE: 30394
SDG: ME00S1

DATE: 05/06/02
SOW NO.: ILM04.1
EPISODE NO.: 49374

MAY 0 9 2002

INORGANIC METAL FRACTION:

Twelve soil samples were submitted for ICP, CN and Hg analysis. No major problems occurred during the digestion or analyses of these samples. The cooler temperatures at time of receipt were at 4.3 ° Celsius. The cooler temperature indicator bottle was present. Sample tags were present The samples for this SDG were designated as waste matrix on the traffic report. Per the region the samples were logged in as soils. No QC was designated by the sampler. See attached email for correspondence with Dyncorp. The sample's analyses were completed according to the following:

SWL SOP #	Method SOP is based
SWL-IN-200	ILM03.0/04.0 (ICP digestion & analysis)
SWL-IN-202	ILM03.0/04.0 (analysis of Hg by cold vapor)
SWL-IN-303	ILM03.0/04.0 (Cyanide)

Initial and Continuing Calibration Checks: No problems

Initial and Continuing Calibration Blanks: The following elements showed low level concentrations below the Contract Required Detection Limit in the Calibration Blank: Al, Sb, Be, Cu, Pb, Mg, Zn, Cn.
No action required.

Linearity near the CRDL (CRA & CRI): The CRI standard was outside of our in house warning limits of 70-130%R for the following elements: Pb, Se, Zn. No action required.

Preparation Blank: The following elements showed low level concentrations below the Contract Required Detection Limit in the Preparation Blank: Al, Ca, Cu, Zn.
No action required

Lab Control Spikes: No problems.

Matrix Spikes: The following elements were outside the control limits of 75-125% recovery: Sb, As, Be, Cd, Se, Ag. All associated samples were flagged with a "N" on Form I's. No action required.

Duplicate(s): The following elements were outside the control limits of 0-20% RPD: Mg. All associated samples were flagged with a "*" on Form I's. No action required.

AMERICAN ANALYTICAL & TECHNICAL SERVICES, INC
1700 West Albany / Broken Arrow, Oklahoma 74012 / Office (918) 251-2858 / Fax (918) 251-2599

Serial Dilution (ICP): The soil serial dilution was outside the control limits of 10% for the following elements: None. No action required.

Sincerely,

Steve Markham
Operations Manager

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

ab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

ab Code: AATS__ Case No.: 30394 SAS No.: _____ SDG No.:ME00S1

OW No.: ILM04.01 5/2/02

EPA Sample No.	Lab Sample ID
ME00S1	49374.01
ME00S2	49374.02
ME00S3	49374.03
ME00S4	49374.04
ME00S5	49374.05
ME00S6	49374.06
ME00S7	49374.07
ME00S8	49374.08
ME00S9	49374.09
ME00T0	49374.10
ME00T1	49374.11
ME00T2	49374.12
ME00T2D	49374.13D
ME00T2S	49374.14S

MAY 0 9 2002

ere ICP interelement corrections applied ? Yes/No YES

ere ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before application of background corrections ? Yes/No NO_

omments:

certify that this data package is in compliance with the terms and onditions of the contract, both technically and for completeness, for ther than the conditions detailed above. Release of the data contained n this hardcopy data package and in the computer-readable data submitted n diskette has been authorized by the Laboratory Manager or the anager's designee, as verified by the following signature.

ignature: Steve L. Markham Name: Steve L. Markham

ate: 05/06/02 Title: Operations Manager

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ME00S4

b Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

b Code: AATS__ Case No.: 30394_ SAS No.: _____ SDG No.: ME00S1

trix (soil/water): SOIL_ Lab Sample ID: 49374.04

vel (low/med): LOW__ Date Received: 04/17/02

Solids: _98.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	16100			P
7440-36-0	Antimony_	1.0	U	N	P
7440-38-2	Arsenic__	2.7		N	P
7440-39-3	Barium___	983			P
7440-41-7	Beryllium	57.3		N	P
7440-43-9	Cadmium__	62.7		N	P
7440-70-2	Calcium__	11300			P
7440-47-3	Chromium_	122			P
7440-48-4	Cobalt___	200			P
7440-50-8	Copper___	8610			P
7439-89-6	Iron_____	273000			P
7439-92-1	Lead_____	16300			P
7439-95-4	Magnesium	4630		*	P
7439-96-5	Manganese	2880			P
7439-97-6	Mercury__	0.05	U		CV
7440-02-0	Nickel___	846			P
7440-09-7	Potassium	1280			P
7782-49-2	Selenium_	1.0	U	N	P
7440-22-4	Silver___	0.20	U	N	P
7440-23-5	Sodium___	7060			P
7440-28-0	Thallium_	8.7			P
7440-62-2	Vanadium_	12.5			P
7440-66-6	Zinc_____	78500			P
	Cyanide__	0.10	U		CA

lor Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

lor After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

mments:

FORM I - IN ILM04.1

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ME00S5

ab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

ab Code: AATS__ Case No.: 30394_ SAS No.: _____ SDG No.: ME00S1

atrix (soil/water): SOIL_ Lab Sample ID: 49374.05

evel (low/med): LOW__ Date Received: 04/17/02

Solids: _98.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	14900			P
7440-36-0	Antimony_	1.0	U	N	P
7440-38-2	Arsenic__	2.2		N	P
7440-39-3	Barium___	906			P
7440-41-7	Beryllium	54.1		N	P
7440-43-9	Cadmium__	66.1		N	P
7440-70-2	Calcium__	10600			P
7440-47-3	Chromium_	99.6			P
7440-48-4	Cobalt___	186			P
7440-50-8	Copper___	6160			P
7439-89-6	Iron_____	256000			P
7439-92-1	Lead_____	15400			P
7439-95-4	Magnesium	3570		*	P
7439-96-5	Manganese	2740			P
7439-97-6	Mercury__	0.05	U		CV
7440-02-0	Nickel___	690			P
7440-09-7	Potassium	1270			P
7782-49-2	Selenium_	1.0	U	N	P
7440-22-4	Silver___	0.20	U	N	P
7440-23-5	Sodium___	6970			P
7440-28-0	Thallium_	7.1			P
7440-62-2	Vanadium_	10.7			P
7440-66-6	Zinc_____	72900			P
	Cyanide__	0.10	U		CA

olor Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

olor After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

omments:

FORM I - IN ILM04.1

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ME00S6

ab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

ab Code: AATS__ Case No.: 30394_ SAS No.: _____ SDG No.: ME00S1

atrix (soil/water): SOIL_ Lab Sample ID: 49374.06

evel (low/med): LOW__ Date Received: 04/17/02

Solids: _96.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15600			P
7440-36-0	Antimony	0.99	U	N	P
7440-38-2	Arsenic	1.6	B	N	P
7440-39-3	Barium	905			P
7440-41-7	Beryllium	90.9		N	P
7440-43-9	Cadmium	7.9		N	P
7440-70-2	Calcium	9440			P
7440-47-3	Chromium	170			P
7440-48-4	Cobalt	203			P
7440-50-8	Copper	5900			P
7439-89-6	Iron	264000			P
7439-92-1	Lead	9810			P
7439-95-4	Magnesium	3660		*	P
7439-96-5	Manganese	2330			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	609			P
7440-09-7	Potassium	1120			P
7782-49-2	Selenium	0.99	U	N	P
7440-22-4	Silver	0.20	U	N	P
7440-23-5	Sodium	6660			P
7440-28-0	Thallium	10.5			P
7440-62-2	Vanadium	13.2			P
7440-66-6	Zinc	73100			P
	Cyanide	0.10	U		CA

olor Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

olor After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

omments:

FORM I - IN ILM04.1

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ME00S7

ame: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Code: AATS__ Case No.: 30394_ SAS No.: _____ SDG No.: ME00S1

rix (soil/water): SOIL_ Lab Sample ID: 49374.07

el (low/med): LOW__ Date Received: 04/17/02

olids: _99.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	16500			P
7440-36-0	Antimony_	0.96	U	N	P
7440-38-2	Arsenic__	0.77	U	N	P
7440-39-3	Barium___	1040			P
7440-41-7	Beryllium	110		N	P
7440-43-9	Cadmium__	3.8		N	P
7440-70-2	Calcium__	9430			P
7440-47-3	Chromium_	188			P
7440-48-4	Cobalt___	142			P
7440-50-8	Copper___	3870			P
7439-89-6	Iron_____	247000			P
7439-92-1	Lead_____	7800			P
7439-95-4	Magnesium	3540		*	P
7439-96-5	Manganese	2490			P
7439-97-6	Mercury__	0.05	U		CV
7440-02-0	Nickel___	410			P
7440-09-7	Potassium	1130			P
7782-49-2	Selenium_	0.96	U	N	P
7440-22-4	Silver___	0.19	U	N	P
7440-23-5	Sodium___	5830			P
7440-28-0	Thallium_	11.9			P
7440-62-2	Vanadium_	15.1			P
7440-66-6	Zinc_____	71000			P
	Cyanide__	0.10	U		CA

or Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

or After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

ments:

FORM I - IN ILM04.1

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ME00T1

ab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

ab Code: AATS__ Case No.: 30394_ SAS No.: _____ SDG No.: ME00S1

atrix (soil/water): SOIL_ Lab Sample ID: 49374.11

evel (low/med): LOW__ Date Received: 04/17/02

Solids: _98.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9090			P
7440-36-0	Antimony	0.99	U	N	P
7440-38-2	Arsenic	4.6		N	P
7440-39-3	Barium	403			P
7440-41-7	Beryllium	60.4		N	P
7440-43-9	Cadmium	18.6		N	P
7440-70-2	Calcium	13400			P
7440-47-3	Chromium	136			P
7440-48-4	Cobalt	132			P
7440-50-8	Copper	5450			P
7439-89-6	Iron	196000			P
7439-92-1	Lead	6790			P
7439-95-4	Magnesium	6550		*	P
7439-96-5	Manganese	2140			P
7439-97-6	Mercury	0.06	B		CV
7440-02-0	Nickel	451			P
7440-09-7	Potassium	787	B		P
7782-49-2	Selenium	0.99	U	N	P
7440-22-4	Silver	0.20	U	N	P
7440-23-5	Sodium	3030			P
7440-28-0	Thallium	11.2			P
7440-62-2	Vanadium	9.0	B		P
7440-66-6	Zinc	62000			P
	Cyanide	0.10	U		CA

olor Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

olor After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

omments:

FORM I - IN ILM04.1

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ME00T2

ab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

ab Code: AATS__ Case No.: 30394_ SAS No.: _____ SDG No.: ME00S1

atrix (soil/water): SOIL_ Lab Sample ID: 49374.12

evel (low/med): LOW__ Date Received: 04/17/02

Solids: _93.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	5110			P
7440-36-0	Antimony_	1.1	U	N	P
7440-38-2	Arsenic__	6.9		N	P
7440-39-3	Barium__	390			P
7440-41-7	Beryllium	33.1		N	P
7440-43-9	Cadmium__	23.4		N	P
7440-70-2	Calcium__	11700			P
7440-47-3	Chromium_	62.1			P
7440-48-4	Cobalt___	116			P
7440-50-8	Copper___	6630			P
7439-89-6	Iron____	152000			P
7439-92-1	Lead____	7940			P
7439-95-4	Magnesium	4220		*	P
7439-96-5	Manganese	1960			P
7439-97-6	Mercury__	0.11			CV
7440-02-0	Nickel___	587			P
7440-09-7	Potassium	955	B		P
7782-49-2	Selenium_	2.3		N	P
7440-22-4	Silver___	0.21	U	N	P
7440-23-5	Sodium___	2390			P
7440-28-0	Thallium_	13.5			P
7440-62-2	Vanadium_	4.0	B		P
7440-66-6	Zinc____	63200			P
	Cyanide__	0.11	U		CA

olor Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

olor After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

omments:

FORM I - IN ILM04.1

Chemetco, Inc. - November 19, 2007

Scrubber Sludge (Zinc Oxide) & Slag Analysis and Inventory

	Scrubber Sludge				Slag
	Zn Oxide Bunker (Average)			DIS Bldg (Average)	Slag (Average)
	Bunker		Bunker Cover (3)		
Quantity, tons	33,000		7400	4000	900,000
	Bulk		Mixed Media	Bulk	Bulk
	Results		Results	Results	Results
Analyte	ppm		ppm	ppm	ppm
Metals (primarily as Metal Oxides)					
Aluminum	34762		27809	11771	26531
Antimony	461		369	916	85
Arsenic	140		112	271	6
Barium	1010		808	2522	763
Bismuth	0		0	2	2
Cadmium	2343		1874	5350	1
Calcium	38213		30570	8695	14899
Chromium	177		141	199	2757
Cobalt	67		54	60	177
Copper	69518		55614	92798	17104
Iron	48759		39007	41617	358502
Lanthanum	10		8	61	17
Lead	80378		64303	102698	17320
Magnesium	7631		6105	3158	8027
Manganese	1377		1102	827	3513
Mercury	0		0	3	3
Molybdenum	21		16	158	99
Nickel	4403		3523	2399	1796
Phosphorus	1063		850	842	1725
Potassium	5677		4542	1281	1957
Scandium	3		2	1	1
Silver	70		56	120	3
Sodium	16773		13419	30903	7046
Strontium	109		87	88	238
Thallium	0		0	2	2
Tin	8239		6591	19800	5480
Titanium	1266		1013	399	747
Tungsten	262		209	721	5
Vanadium	32		26	11	51
Zinc	205702		164562	199169	106344
Total Metals (Dry Basis)	528465		422772	(2) 526842	575198
Balance (estimated)					
Silica	60000			60000	143799
Oxides, Carbonates, et al	169109			168589	235326
Soil + Slag + Debris	79270	(1)	577228		
Unaccounted (by difference)	163157			244569	45677
Total Compounds (Dry Basis)	1000000		1000000	1000000	1000000
Moisture Content	30-40%		<5%	10-15%	<5%

Notes: (1) Bunker contains approximately 10% soil

(2) Bunker Cover on north end contains approximately 42% Scrubber Sludge, with rest being Slag and Slag fines and some scrap metal, soil, and concrete debris

(3) Bunker Cover contains approximately 58% Slag

ase Number : 30394
ite Name: Chemetco

SDG Number: ME00S1
Laboratory: AATS

. HOLDING TIME:

Holding Time Report

SDG NO: ME00S1

HOLDING TIME CRITERIA

Inorganic

	-- Holding Time --		------- pH -------	
	Primary	Expanded	Primary	Expanded
Metals	180	0	2.0	0.0
Mercury	28	0	2.0	0.0
Cyanide	14	0	12.0	0.0

DC-280: The following inorganic soil samples were reviewed for holding time violations using criteria developed for water samples.

ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S8, ME00S9, ME00T0, ME00T1, ME00T2
ME00T2D, ME00T2S

2. CALIBRATIONS:

Calibration Report

SDG NO: ME00S1

CALIBRATION CRITERIA

Inorganic

Percent Recovery Limits

	--- Primary ---		-- Expanded ---	
	Low	High	Low	High
Cyanide	85.00	115.00	70.00	130.00
AA	90.00	110.00	75.00	125.00
ICP	90.00	110.00	75.00	125.00
Mercury	80.00	120.00	65.00	135.00

No problems found for this qualification.

CRDL Standards Report

Assembled By: ESAT
Date: May 13, 2002

ase Number : 30394
ite Name: Chemetco

SDG Number: ME00S1
Laboratory: AATS

Below is a summary of the out-of-control audits and the possible effects on the data for this case:

NUMBER (##) MATRIX samples numbered ##, were collected on DATE. The lab received the samples on DATE in good condition. All samples were analyzed for metals and cyanide. All samples were analyzed using CLP SOW ILM04.1 analysis procedures.

Mercury analysis was performed using a Cold Vapor AA Technique. Cyanide analysis was performed using the MIDI Distillation procedure. The remaining inorganic analyses were performed using an Inductively Coupled Plasma-Atomic Emission Spectrometric procedure.

Assembled By: ESAT
Date: May 13, 2002

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: May 13, 2002

JBJECT: Review of Data
Received for Review on May 9, 2002

FROM: Stephen L. Ostrodka, Chief (SMF-4J)
Superfund Field Services Section

TO: Data User: IEPA

ıe data in this case has not been validated.
: have compiled the CADRE files into a narrative format for the following
ıse:

:TE NAME: Chemetco

ıSE NUMBER: 30394 SDG NUMBER: ME00S1

ımber and Type of Samples: 12 soils

ımple Numbers: ME00S1-9; ME00T0-2

ıboratory: AATS Hrs. for Review: 2

ɔllowing are our findings:

: Cecilia Moore
Region 5 TPO
Mail Code: SM-5J

RECEIVED
MAY 16 2002
IEPA-ECL-FORS

DATE: May 13, 2002

IEPA
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Bob Casper

SITE NAME: Chemetco

CASE NO.	LAB	NO. OF SAMPLES	SDG	MATRIX
30394	AATS	12	ME00S1	Soil

Upon receipt of data, please check each package for completeness and note any missing deliverables below.

Send this form back to Sylvia Griffin, Data Management Coordinator after filling in the blanks below.

Data Received by:_____ Date:_____

PROBLEMS:

Please indicate if data is complete, and note if there are any deliverables missing from the cases noted above.

_____

_____

Received by Data Management Coordinator, CRL for file.
Date:_____

Signature:_____

RECEIVED
MAY 16 2002
IEPA-BOL-FSRS

FROM: U.S. EPA
Region V
Central Regional Laboratory
536 S. Clark, 10th Floor
Chicago, IL 60605

Sent By: Eva M. Dixon, Sr. Data Specialist
ESAT

se Number : 30394
te Name: Chemetco

SDG Number: ME00S1
Laboratory: AATS

SDG NO: ME00S1

DC-373: The following inorganic samples are associated with a CRDL standard with low percent recovery.

Selenium
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S8, ME00S9, ME00T0, ME00T1, ME00T2

Thallium
ME00T2

DC-374: The following inorganic samples are associated with a CRDL standard with high percent recovery.
Hits and non-detects are flagged .

Arsenic
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S8, ME00S9, ME00T0, ME00T1, ME00T2

Beryllium
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S9, ME00T0, ME00T1, ME00T2, PBS03

Cobalt
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S9, ME00T0, ME00T1, ME00T2, PBS03

Copper
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S8, ME00S9, ME00T0, ME00T1, ME00T2
PBS04

Lead
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S8, ME00S9, ME00T0, ME00T1, ME00T2
PBS03

Manganese
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S9, ME00T0, ME00T1, ME00T2, PBS03

Nickel
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S9, ME00T0, ME00T1, ME00T2, PBS03

Selenium
ME00T2

Thallium
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S9, ME00T0, ME00T1, ME00T2, PBS03

Zinc
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S8, ME00S9, ME00T0, ME00T1, ME00T2
PBS03

3. **BLANKS:**

Assembled By: ESAT
Date: May 13, 2002

.se Number : 30394
.te Name: Chemetco

SDG Number: ME00S1
Laboratory: AATS

Laboratory Blanks Report

SDG NO: ME00S1

LABORATORY BLANKS CRITERIA

DC-284: The following inorganic samples are associated with a blank concentration which is greater than the instrument detection limit (IDL). The sample concentration is also greater than the IDL and less than five times the blank concentration. Hits are qualified "J"; non-detects are not flagged.

Antimony
ME00S8, ME00T2A

Copper
ME00S9

Zinc
ME00S9

Cyanide
ME00S1, ME00S3, ME00S8

DC-338: During review of the following inorganic samples, the reported IDL/default CRDL value was used for cyanide.

ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S8, ME00S9, ME00T0, ME00T1, ME00T2
ME00T2D, ME00T2S

4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE AND LAB CONTROL SAMPLE:

Matrix Spike Report

SDG NO: ME00S1

MATRIX SPIKE CRITERIA

Inorganic

Percent Recovery Limits

Upper	125.0
Lower	75.0
Extreme Lower	30.0

DC-266: The following inorganic samples are associated with a matrix spike recovery which was not within criteria and the required post digestion spike analysis was not performed. Hits and non-detects are not flagged. However, the information must be included in the IRDA report.

Assembled By: ESAT
Date: May 13, 2002

Number : 30394
Name: Chemetco

SDG Number: ME00S1
Laboratory: AATS

Cyanide
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S8, ME00S9, ME00T0, ME00T1, ME00T2
ME00T2D

DC-267: The following inorganic samples are associated with a matrix spike recovery which is high (>125%)
Hits are qualified "J" and non-detects are not flagged.

Beryllium
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S8, ME00S9, ME00T0, ME00T1, ME00T2
ME00T2A, ME00T2D

Selenium
ME00S1, ME00S3, ME00S8, ME00S9, ME00T0, ME00T2
ME00T2A, ME00T2D

DC-268. The following inorganic samples are associated with a matrix spike recovery which is low (30-74 %) indicating that sample results may be biased low.
Hits are qualified "J" and non-detects are qualified "UJ".

Arsenic
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S8, ME00S9, ME00T0, ME00T1, ME00T2
ME00T2A, ME00T2D

Cadmium
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S8, ME00S9, ME00T0, ME00T1, ME00T2
ME00T2A, ME00T2D

Silver
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S8, ME00S9, ME00T0, ME00T1, ME00T2
ME00T2D

Cyanide
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S8, ME00S9, ME00T0, ME00T1, ME00T2
ME00T2D

DC-269: The following inorganic samples are associated with a matrix spike recovery which is extremely low (<30 %) indicating that sa mple results may be biased low.
Hits are qualified "J" and non-detects are qualified "R".

Antimony
ME00S1, ME00S2, ME00S3, ME00S4, ME00S5, ME00S6
ME00S7, ME00S8, ME00S9, ME00T0, ME00T1, ME00T2
ME00T2A, ME00T2D

LCS Report

SDG NO: ME00S1

No problems found for this qualification.

Assembled By: ESAT
Date: May 13, 2002

.se Number : 30394
.te Name: Chemetco

SDG Number: ME00S1
Laboratory: AATS

5. LABORATORY AND FIELD DUPLICATE

Duplicates Report

SDG NO: ME00S1

DC-257: The following inorganic samples are not qualified for duplicates due to missing information.
Manual review of the data is required.

Lead
ME00S2

6. ICP ANALYSIS

ICS Report

SDG NO: ME00S1

DC-311: The following inorganic samples are associated with an ICS analyte with low percent recovery (50-79%) .
Interferant concentration in the sample is comparable to that in the ICS. Hits are qualified "J" and non-detects are qualified "UJ".

Arsenic
ME00S1

DC-312: The following inorganic samples have elements other than Al, Ca, Fe, and Mg at concentrations higher than 10 ppm that may cause potential interference.
Hits are flagged "J" and non-detects are qualified "UJ".

Copper
ME00S3, ME00S4, ME00S5, ME00S6, ME00S7, ME00T0
ME00T1, ME00T2

Lead
ME00S1, ME00S3, ME00S6, ME00S7, ME00T0, ME00T1
ME00T2

Manganese
ME00S4, ME00S5, ME00S6, ME00S7, ME00T1

Nickel
ME00S9, ME00T0

Sodium
ME00S3, ME00S4, ME00S5, ME00S6, ME00S7, ME00S9
ME00T0, ME00T1, ME00T2

Assembled By: ESAT
Date: May 13, 2002

Serial Dilution Report

SDG NO: ME00S1

No problems found for this qualification.

7. GFAA ANALYSIS

Furnace AA QC Report

SDG NO: ME00S1

No problems found for this qualification.

8. SAMPLE RESULTS

All data, except those qualified above, are acceptable.

Sample Result Verification Report

SDG NO: ME00S1

DC-336: The following inorganic samples have ICP determined results (for analytes usually determined by furnace AA) whose concentrations are below criteria. Professional judgement should be used to qualify the data.

Lead
ME00S2

Assembled By: ESAT
Date: May 13, 2002

CADRE Data Qualifier Sheet

Qualifiers	Data Qualifier Definitions
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the action limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The data are unusable. (The compound may or may not be present)