LPC 197 809 0003
American Cyanamide/Will County
SF/HRS
Analytical Addendum
ILD 000 675 264

CERCLA

Analytical Results

Illinois Environmental
Protection Agency

EPA Region 5 Records Ctr.
288879

ADDENDUM FOR
CERCLA EXPANDED SITE INSPECTION

FOR

AMERICAN CYANAMIDE
ILD 000 675 264
JOLIET, ILLINOIS

PREPARED BY:
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF LAND
DIVISION OF REMEDIATION MANAGEMENT
FEDERAL SITES REMEDIATION SECTION
SITE ASSESSMENT UNIT

JULY 2001

JUL 1 1 2001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: July 11, 2001

SUBJECT: Review of Data
Received for Review on July 5, 2001

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

TO: Data User: IEPA

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

SITE NAME: American Cyanamide

CASE NUMBER: 29241 SDG NUMBER: ME0TH3

Number and Type of Samples: 9 soils

Sample Numbers: ME0TH3-9; ME0TJ0,1

Laboratory: AATS Hrs. for Review: 1

Following are our findings:

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

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

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Laboratory: AATS Hrs. for Review: 1

Following are our findings:

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

Case Number : 29241
Site Name: American Cyanamide

SDG Number: ME0TH3
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: July 11, 2001

Case Number : 29241
Site Name: American Cyanamide

SDG Number: ME0TH3
Laboratory: AATS

1. HOLDING TIME:

Holding Time Report

SDG NO: ME0TH3

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

No problems found for this qualification.

2. CALIBRATIONS:

Calibration Report

SDG NO: ME0TH3

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

DC-303: The following inorganic samples are associated with ICV or CCV percent recoveries within the range 111-125% (CN, 116-130%; Hg, 121-135%).
Hits are qualified "J" and non-detects are not flagged.

Arsenic
ME0TH5D, ME0TH5S

Assembled By: ESAT
Date: July 11, 2001

Case Number : 29241
Site Name: American Cyanamide

SDG Number: ME0TH3
Laboratory: AATS

DC-304: The following inorganic samples are associated with the CCV and ICV percent recoveries <75% (CN,<70%; Hg, <65%).
Hits are qualified "R".

Selenium
ME0TH5A

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CRDL Standards Report

SDG NO: ME0TH3

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

Lead
ME0TH3, ME0TH4, ME0TH5, ME0TH6, ME0TH7, ME0TH8
ME0TH9, ME0TJ0, ME0TJ1, PBW02

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

Arsenic
ME0TH3, ME0TH4, ME0TH5, ME0TH6, ME0TH7, ME0TH8
ME0TH9, ME0TJ0, ME0TJ1, PBW02

Nickel
ME0TH3, ME0TH4, ME0TH5, ME0TH6, ME0TH7, ME0TH8
ME0TH9, ME0TJ0, ME0TJ1, PBW02

Selenium
ME0TH3, ME0TH4, ME0TH5, ME0TH6, ME0TH7, ME0TH8
ME0TH9, ME0TJ0, ME0TJ1, PBW03

Thallium
ME0TH3, ME0TH4, ME0TH5, ME0TH6, ME0TH7, ME0TH8
ME0TH9, ME0TJ0, ME0TJ1, PBW02

3. BLANKS:

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Laboratory Blanks Report

SDG NO: ME0TH3

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LABORATORY BLANKS CRITERIA

No problems found for this qualification.

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

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Assembled By: ESAT
Date: July 11, 2001

Case Number : 29241
Site Name: American Cyanamide

SDG Number: MEOTH3
Laboratory: AATS

Matrix Spike Report

SDG NO: MEOTH3

MATRIX SPIKE CRITERIA

Inorganic

Percent Recovery Limits

Upper	125.0
Lower	75.0
Extreme lower	30.0

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.

Selenium
MEOTH5A

LCS Report

SDG NO: MEOTH3

No problems found for this qualification.

5. LABORATORY AND FIELD DUPLICATE

Duplicates Report

SDG NO: MEOTH3

No problems found for this qualification.

6. ICP ANALYSIS

ICS Report

SDG NO: MEOTH3

DC-307: The following inorganic samples have no associated ICS analyses.
Manual review of the data is required.

MEOTH3

Assembled By: ESAT
Date: July 11, 2001

Case Number : 29241
Site Name: American Cyanamide

SDG Number: MEOTH3
Laboratory: AATS

Cadmium, Nickel

MEOTH4
Cadmium, Nickel

MEOTH5
Cadmium, Nickel

MEOTH6
Cadmium, Nickel

MEOTH7
Cadmium, Nickel

MEOTH8
Cadmium, Nickel

MEOTH9
Cadmium, Nickel

MEOTJ0
Cadmium, Nickel

MEOTJ1
Cadmium, Nickel

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".

Potassium
MEOTH6, MEOTH8, MEOTH9, MEOTJ1

Sodium
MEOTH3, MEOTH4, MEOTH5, MEOTH6, MEOTH7, MEOTH8
MEOTH9, MEOTJ0, MEOTJ1

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Serial Dilution Report

SDG NO: MEOTH3

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DC-295: The following inorganic samples are associated with an ICP serial dilution percent difference which is not in criteria. The serial dilution result is greater than the sample result, indicating a potential negative interference. The data must be qualified using professional judgement. Hits are qualified "J", non-detects "UJ".

Calcium
MEOTH3, MEOTH4, MEOTH5, MEOTH5D, MEOTH6, MEOTH7
MEOTH8, MEOTH9, MEOTJ0, MEOTJ1

Sodium
MEOTH3, MEOTH4, MEOTH5, MEOTH5D, MEOTH6, MEOTH7
MEOTH8, MEOTH9, MEOTJ0, MEOTJ1

'. **GFAA ANALYSIS**

Assembled By: ESAT
Date: July 11, 2001

Case Number : 29241
Site Name: American Cyanamide

SDG Number: ME0TH3
Laboratory: AATS

Furnace AA QC Report

SDG NO: ME0TH3

No problems found for this qualification.

8. SAMPLE RESULTS

All data, except those qualified above, are acceptable.

Sample Result Verification Report

SDG NO: ME0TH3

No problems found for this qualification.

Assembled By: ESAT
Date: July 11, 2001

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)

Analytical Results (Qualified Data)

Case #: 29241 SDG : ME0TH3
Site : AMERICAN CYANAMIDE
Lab. : AATS
Reviewer :
Date :

Number of Soil Samples : 0
Number of Water Samples : 9

Sample Number :	ME0TH3		ME0TH4		ME0TH5		ME0TH6		ME0TH7	
Sampling Location :	G104		G106		G102		G101		G108	
Matrix :	Water		Water		Water		Water		Water	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :	05/08/2001		05/08/2001		05/08/2001		05/08/2001		05/08/2001	
Time Sampled :	09:45		11:45		12:30		15:15		15:35	
%Solids :	0.0		0.0		0.0		0.0		0.0	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	12.0	U	12.0	U	12.0	U	12.0	U	12.0	U
ANTIMONY	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U
ARSENIC	3.0	U	3.0	U	3.0	U	3.2		3.0	U
BARIUM	12.2		36.0		27.1		21.0		52.4	
BERYLLIUM	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
CADMIUM	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
CALCIUM	561000	J	121000	J	347000	J	286000	J	213000	J
CHROMIUM	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
COBALT	7.0		2.0	U	12.0		7.9		2.9	
COPPER	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
IRON	892		16.0	U	102		1950		370	
LEAD	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
MAGNESIUM	779000		62900		133000		342000		135000	
MANGANESE	482		20.8		25.7		265		199	
MERCURY	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
NICKEL	24.5		2.3		12.8		4.2		2.6	
POTASSIUM	7330		3090		9040		29200	J	4160	
SELENIUM	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
SILVER	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
SODIUM	58700	J	23900	J	27900	J	226000	J	27600	J
THALLIUM	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
VANADIUM	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
ZINC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
CYANIDE										

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 #: 29241 SDG : ME0TH3
Site : AMERICAN CYANAMIDE
Lab. : AATS
Reviewer :
Date :

Sample Number :	ME0TH8		ME0TH9		ME0TJ0		ME0TJ1		ME0TH5D	
Sampling Location :	G109		G111		G105		G107		G102	
Matrix :	Water		Water		Water		Water		Water	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :	05/08/2001		05/08/2001		05/09/2001		05/09/2001		05/08/2001	
Time Sampled :	17:30		17:45		08:30		10:20		12:30	
%Solids :	0.0		0.0		0.0		0.0		0.0	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	12.0	U	12.0	U	12.0	U	12.0	U	12.0	U
ANTIMONY	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U
ARSENIC	3.0	U	3.0	U	3.3		10.7		3.0	U
BARIUM	39.7		12.9		30.0		104		27.9	
BERYLLIUM	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
CADMIUM	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
CALCIUM	80500	J	52000	J	235000	J	76400	J	362000	J
CHROMIUM	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
COBALT	2.0	U	2.0	U	2.0	U	2.7		11.1	
COPPER	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
IRON	82.0		16.0	U	32.9		16.0	U	117	
LEAD	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
MAGNESIUM	47900		56800		166000		58400		138000	
MANGANESE	60.6		23.0		53.1		310		26.6	
MERCURY	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
NICKEL	2.0	U	2.0	U	7.0		6.7		11.9	
POTASSIUM	12300	J	64400	J	4980		21900	J	9330	
SELENIUM	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
SILVER	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
SODIUM	20500	J	76900	J	20900	J	38400	J	28600	J
THALLIUM	5.0	U	5.0	U	5.0	U	5.3		5.0	U
VANADIUM	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
ZINC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
CYANIDE										

Analytical Results (Qualified Data)

Case #: 29241 SDG : ME0TH3
Site : AMERICAN CYANAMIDE
Lab. : AATS
Reviewer :
Date :

Sample Number :	ME0TH5S									
Sampling Location :	G102									
Matrix :	Water									
Units :	ug/L									
Date Sampled :	05/08/2001									
Time Sampled :	12:30									
%Solids :	0.0									
Dilution Factor :	1.0									
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	2260									
ANTIMONY	549									
ARSENIC	49.7	J								
BARIUM	2210									
BERYLLIUM	53.0									
CADMIUM	50.7									
CALCIUM										
CHROMIUM	209									
COBALT	488									
COPPER	265									
IRON	1160									
LEAD	16.3									
MAGNESIUM										
MANGANESE	531									
MERCURY	0.89									
NICKEL	515									
POTASSIUM										
SELENIUM	15.7									
SILVER	54.1									
SODIUM										
THALLIUM	55.6									
VANADIUM	520									
ZINC	526									
CYANIDE										

U.S. EPA Contract Laboratory Program
Inorganic Traffic Report

Case No: 29241
DAS No:
SDG No: ME0THD

L

Date Shipped: 5/9/01 Carrier Name: FedEx Airbill: 4684285060 Shipped to: American Analytical & Technical Services, Inc. 1700 West Albany Suite C Broken Arrow OK 74012 (918) 251-0545	Date Received/Received by: Lab Contract No: 68D00084 Unit Price: $87.95 Transfer To: Date Received/Received By: Lab Contract No: Price:	Sampler (Signature): Bruce Everetts Relinquished By: Date / Time: 5-9/1400 Received By: Relinquished By: Date / Time: 5-10-01 8:30 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
ME00C7	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-43668 (Ice Only) (1)	X111	5/7/01 17:15	E00C7	
ME00C8	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-43670 (Ice Only) (1)	X112	5/7/01 15:15	E00C8	
ME00C9	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-43672 (1)	X116	5/7/01 17:00	E00C9	
ME00D1	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-43674 (1)	X117	5/7/01 16:45	E00D1	
ME00D2	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-43676 (1)	X118	5/7/01 16:30	E00D2	
ME00D3	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-43678 (1)	X119	5/7/01 16:30	E00D3	
ME00D4	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-43680 (1)	X120	5/7/01 16:20	E00D4	
ME00D5	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-43682 (1)	X121	5/7/01 15:50	E00D5	
ME00D6	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-43684 (1)	X122	5/7/01 15:35	E00D6	
ME00D7	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-43686 (1)	X123	5/7/01 16:10	E00D7	
ME00E0	Ground Water/ Bruce Everetts	L/G	TM (21)	5-43694 (HNO3), 5-43695 (HNO3) (2)	G104	5/8/01 9:45	E00E0	
ME00E2	Ground Water/ Bruce Everetts	L/G	TM (21)	5-055038 (HNO3), 5-55039 (HNO3) (2)	G106	5/8/01 11:45	E00E2	
ME00E3	Ground Water/ Bruce Everetts	L/G	TM (21)	5-97159 (HNO3), 5-97160 (HNO3), 5-97161 (HNO3), 5-97162 (HNO3), 5-97163 (HNO3), 5-97164 (HNO3) (6)	G102	5/8/01 12:30	E00E3	

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: ME00E7	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 1.5, 2.4, 3.4	Chain of Custody Seal Number: 26033 - 26035
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact?__ Shipment Iced?__

TM = CLP TAL Total Metals, TM/CN = CLP TAL Total Metals and Cyanide

PR provide 'liminary results. Requests for preliminary results will increase analytical costs.
ACOL ntract Laboratory Analytical Services Support, 2000 Edmund Halley Dr., Res . 20191-3436 Phone 703/264-9348 Fax 703/264-9222

U.S.EPA Contract Laboratory Program
Inorganic Traffic Report

Case No: 29241
DAS No:
SDG No: ME 0TH3

L

Date Shipped: 5/9/01 Carrier Name: FedEx Airbill: 4684285060 Shipped to: American Analytical & Technical Services, Inc. 1700 West Albany Suite C Broken Arrow OK 74012 (918) 251-0545	Date Received/Received by: 5-10-01 Lab Contract No: Unit Price: Transfer To: Date Received/Received By: Lab Contract No: Price:	Sampler (Signature): Bruce Everetts Relinquished By: Date / Time: 5-9/1400 Relinquished By: Date / Time: 5-10-01 8:30 Relinquished By: 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
ME00E4	Ground Water/ Bruce Everetts	L/G	TM (21)	5-97174 (HNO3), 5-97175 (HNO3) (2)	G101	5/8/01 15:15	E00E4	
ME00E6	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97179 (Ice Only) (1)	X102	5/8/01 13:40	E00E6	
ME00E7	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97181 (Ice Only) (1)	X103	5/8/01 13:15	E00E7	
ME00E8	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97183 (1)	X104	5/8/01 14:00	E00E8	
ME00E9	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97185 (Ice Only) (1)	X105	5/8/01 13:00	E00E9	
ME00F0	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97187 (Ice Only) (1)	X106	5/8/01 16:45	E00F0	
ME00F1	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97189 (Ice Only) (1)	X107	5/8/01 18:00	E00F1	
ME00F2	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97191 (Ice Only) (1)	X108	5/8/01 17:45	E00F2	
ME00F3	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97193 (Ice Only) (1)	X109	5/8/01 17:10	E00F3	
ME00F4	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97195 (Ice Only) (1)	X110	5/8/01 17:10	E00F4	
ME00F5	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97197 (Ice Only) (1)	X124	5/8/01 17:45	E00F5	
ME00F6	Ground Water/ Bruce Everetts	L/G	TM (21)	5-97199 (HNO3), 5-97200 (HNO3) (2)	G108	5/8/01 15:35	E00F6	
ME00F7	Ground Water/ Bruce Everetts	L/G	TM (21)	5-97054 (HNO3), 5-97055 (HNO3) (2)	G109	5/8/01 17:30	E00F7	
ME00F8	Ground Water/ Bruce Everetts	L/G	TM (21)	5-97059 (HNO3), 5-97060 (HNO3) (2)	G111	5/8/01 17:45	E00F8	
ME00F9	Ground Water/ Bruce Everetts	L/G	TM (21)	5-97064 (HNO3), 5-97065 (HNO3) (2)	G113	5/9/01 8:10	E00F9	

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: ME00F7	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 1.5, 2.4, 3.4	Chain of Custody Seal Number: 26033 - 26035
Analysis Key: TM = CLP TAL Total Metals, 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?__	Shipment Iced?__

[redacted] PR provide[illegible] [illegible]nary results. Requests for preliminary results will increase analytical costs.
[redacted] Co[illegible] [illegible]ntract Laboratory Analytical Services Support, 2000 Edmund Halley Dr., Re[illegible] [illegible] 20191-3436 Phone 703/264-9348 Fax 703/264-9222

EPA Contract Laboratory Program
Inorganic Traffic Report

Case No: 29241
DAS No:
SDG No: ME0TH3
L

Date Shipped: 5/9/01 Carrier Name: FedEx Airbill: 4684285060 Shipped to: American Analytical & Technical Services, Inc. 1700 West Albany Suite C Broken Arrow OK 74012 (918) 251-0545	Date Received/Received by: 5-10-01 Lab Contract No: 68-C-1086 Unit Price: $87.95 Transfer To: Date Received/Received By: Lab Contract No: Price:	Sampler (Signature): Bruce Everetts Relinquished By: Date / Time: 5-9/1400 Received By: Relinquished By: Date / Time: 5-10-01 8:30 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
ME00G0	Ground Water/ Bruce Everetts	L/G	TM (21)	5-97069 (HNO3), 5-97070 (HNO3) (2)	G105	5/9/01 8:30	E00G0	
ME00G1	Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97074 (Ice Only) (1)	X201	5/9/01 9:30	E00G1	
ME00G2	Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97076 (Ice Only) (1)	X202	5/9/01 9:45	E00G2	
ME00G3	Ground Water/ Bruce Everetts	L/G	TM (21)	5-97078 (HNO3), 5-97079 (HNO3) (2)	G107	5/9/01 10:20	E00G3	
ME00G4	Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97083 (Ice Only) (1)	X203	5/9/01 11:45	E00G4	
ME00G5	Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97085 (1)	X204	5/9/01 11:30	E00G5	
ME00G6	Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97087 (Ice Only) (1)	X205	5/9/01 12:15	E00G6	
ME00G7	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97089 (Ice Only) (1)	X206	5/9/01 12:30	E00G7	
ME00G8	Soil/Sediment/ Bruce Everetts	L/G	TM/CN (21)	5-97091 (Ice Only) (1)	X101	5/9/01 12:45	E00G8	

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: ME00E7	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 15, 2.4, 3.4	Chain of Custody Seal Number: 26033-26035
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Shipment Iced?

TM = CLP TAL Total Metals, TM/CN = CLP TAL Total Metals and Cyanide

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Co[illegible] Contract Laboratory Analytical Services Support, 2000 Edmund Halley Dr.

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
77 West Jackson Boulevard
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
2001E08	AMERICAN CYANAMID

Activity Code: 56102D

SAMPLERS: (Print Name and Sign)
BRUCE BYERLOTTS

SF 20010032
SHEET 1 OF 2

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Analyte: MERCURY						TAG NUMBERS
G-109	5/9/01	17:30		X	RESIDENTIAL WELL	1	X						5-097055

Relinquished by: (Signature)	Date / Time	Received by: (Signature)
William [illegible]	5/14/01 14:35	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) / Date / Time
		[illegible] 5-15-01 8:30

Ship To:
AMERICAN ANALYTICAL TECHNICAL SERVICES (AATS)
1700 WEST ALBANY, SUITE C
BROKEN ARROW, OKLAHOMA 74012
ATTN: STEVE MANCHAM

Airbill Number
FEDERAL EXPRESS # 806336067720

Chain of Custody Seal Numbers
189753, 189754 11.12

Distribution: White - Accompanies Shipment; Pink - Coordinator Field Files; Yellow - Laboratory File

JUL 05 2001

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

2

SDG NARRATIVE

CONTRACT: 68W00086 **DATE: 06/29/01**
CASE:29241 **SOW NO.: ILM04.1**
SDG: ME0TH3 **EPISODE NO.: 46540**

INORGANIC METAL FRACTION:

Nine water samples were submitted for ICP and Hg analysis. No major problems occurred during the digestion or analyses of these samples. The cooler temperatures at time of receipt were at 1.5 2.4, 3.4, and 11.1° Celsius. The lab uses a mixture of ICV-1, ICV-2, ICV-3 and ICV-4 for the ICP Initial Calibration Verification analysis. In order to obtain results for sodium and potassium within the calibration range of the TRACE ICP's, the ICV-1 reference solutions is prepared at twice the dilution suggested for the ICV-1 preparation. 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)

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, Ba, Ca
No action required.

Linearity near the CRDL (CRA & CRI): No problems.

Preparation Blank: No problems.

Lab Control Spikes: No problems.

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

Duplicate(s): No problems.

Serial Dilution (ICP): The soil serial dilution was outside the control limits of 10% for the following elements: Ca, Na
All associated samples were flagged with an "E" on Form I's. No action required.

Sincerely,

Steve Markham
Operations Manager

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241 SAS No.: _____ SDG No.:ME0TH3

SOW No.: ILM04.0

EPA Sample No.	Lab Sample ID
ME0TH3	46540.01
ME0TH4	46540.02
ME0TH5	46540.03
ME0TH5D	46540.04D
ME0TH5S	46540.05S
ME0TH6	46540.06
ME0TH7	46540.07
ME0TH8	46540.08
ME0TH9	46540.09
ME0TJ0	46540.10
ME0TJ1	46540.11

Were ICP interelement corrections applied ? Yes/No YES

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

Comments:
THE "E" FLAGS FOR CALCIUM AND SODIUM ARE DUE TO THE SERIAL DILUTION PERCENT DIFFERENCE BEING GREATER THAN 10%.

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

Signature: Steve L. Markham Name: Steve L. Markham

Date: 7/3/01 Title: Operations Manager

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1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ME0TH3

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Matrix (soil/water): WATER Lab Sample ID: 46540.01

Level (low/med): LOW__ Date Received: 05/10/01

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	12.0	U		P
7440-36-0	Antimony_	6.0	U		P
7440-38-2	Arsenic__	3.0	U		P
7440-39-3	Barium___	12.2	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium__	1.0	U		P
7440-70-2	Calcium__	561000		E	P
7440-47-3	Chromium_	2.0	U		P
7440-48-4	Cobalt___	7.0	B		P
7440-50-8	Copper___	2.0	U		P
7439-89-6	Iron____	892			P
7439-92-1	Lead____	2.0	U		P
7439-95-4	Magnesium	779000			P
7439-96-5	Manganese	482			P
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	24.5	B		P
7440-09-7	Potassium	7330			P
7782-49-2	Selenium_	3.0	U	N	P
7440-22-4	Silver___	3.0	U		P
7440-23-5	Sodium___	58700		E	P
7440-28-0	Thallium_	5.0	U		P
7440-62-2	Vanadium_	3.0	U		P
7440-66-6	Zinc____	1.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ME0TH4

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Matrix (soil/water): WATER Lab Sample ID: 46540.02

Level (low/med): LOW__ Date Received: 05/10/01

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	12.0	U		P_
7440-36-0	Antimony_	6.0	U		P_
7440-38-2	Arsenic__	3.0	U		P_
7440-39-3	Barium___	36.0	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	1.0	U		P_
7440-70-2	Calcium__	121000		E	P_
7440-47-3	Chromium_	2.0	U		P_
7440-48-4	Cobalt___	2.0	U		P_
7440-50-8	Copper___	2.0	U		P_
7439-89-6	Iron____	16.0	U		P_
7439-92-1	Lead____	2.0	U		P_
7439-95-4	Magnesium	62900			P_
7439-96-5	Manganese	20.8			P_
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	2.3	B		P_
7440-09-7	Potassium	3090	B		P_
7782-49-2	Selenium_	3.0	U	N	P_
7440-22-4	Silver___	3.0	U		P_
7440-23-5	Sodium___	23900		E	P_
7440-28-0	Thallium_	5.0	U		P_
7440-62-2	Vanadium_	3.0	U		P_
7440-66-6	Zinc____	1.0	U		P_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ME0TH5

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Matrix (soil/water): WATER Lab Sample ID: 46540.03

Level (low/med): LOW__ Date Received: 05/10/01

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	12.0	U		P
7440-36-0	Antimony_	6.0	U		P
7440-38-2	Arsenic__	3.0	U		P
7440-39-3	Barium___	27.1	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium__	1.0	U		P
7440-70-2	Calcium__	347000		E	P
7440-47-3	Chromium_	2.0	U		P
7440-48-4	Cobalt___	12.0	B		P
7440-50-8	Copper___	2.0	U		P
7439-89-6	Iron_____	102			P
7439-92-1	Lead_____	2.0	U		P
7439-95-4	Magnesium	133000			P
7439-96-5	Manganese	25.7			P
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	12.6	B		P
7440-09-7	Potassium	9040			P
7782-49-2	Selenium_	3.0	U	N	P
7440-22-4	Silver___	3.0	U		P
7440-23-5	Sodium___	27900		E	P
7440-28-0	Thallium_	5.0	U		P
7440-62-2	Vanadium_	3.0	U		P
7440-66-6	Zinc_____	1.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ME0TH6

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Matrix (soil/water): WATER Lab Sample ID: 46540.06

Level (low/med): LOW__ Date Received: 05/10/01

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	12.0	U		P
7440-36-0	Antimony_	6.0	U		P
7440-38-2	Arsenic__	3.2	B		P
7440-39-3	Barium___	21.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium__	1.0	U		P
7440-70-2	Calcium__	286000		E	P
7440-47-3	Chromium_	2.0	U		P
7440-48-4	Cobalt___	7.9	B		P
7440-50-8	Copper___	2.0	U		P
7439-89-6	Iron_____	1950			P
7439-92-1	Lead_____	2.0	U		P
7439-95-4	Magnesium	342000			P
7439-96-5	Manganese	265			P
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	4.2	B		P
7440-09-7	Potassium	29200			P
7782-49-2	Selenium_	3.0	U	N	P
7440-22-4	Silver___	3.0	U		P
7440-23-5	Sodium___	226000		E	P
7440-28-0	Thallium_	5.0	U		P
7440-62-2	Vanadium_	3.0	U		P
7440-66-6	Zinc_____	1.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ME0TH7

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Matrix (soil/water): WATER Lab Sample ID: 46540.07

Level (low/med): LOW__ Date Received: 05/10/01

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	12.0	U		P_
7440-36-0	Antimony_	6.0	U		P_
7440-38-2	Arsenic__	3.0	U		P_
7440-39-3	Barium___	52.4	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	1.0	U		P_
7440-70-2	Calcium__	213000		E	P_
7440-47-3	Chromium_	2.0	U		P_
7440-48-4	Cobalt___	2.9	B		P_
7440-50-8	Copper___	2.0	U		P_
7439-89-6	Iron_____	370			P_
7439-92-1	Lead_____	2.0	U		P_
7439-95-4	Magnesium	135000			P_
7439-96-5	Manganese	199			P_
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	2.6	B		P_
7440-09-7	Potassium	4160	B		P_
7782-49-2	Selenium_	3.0	U	N	P_
7440-22-4	Silver___	3.0	U		P_
7440-23-5	Sodium___	27600		E	P_
7440-28-0	Thallium_	5.0	U		P_
7440-62-2	Vanadium_	3.0	U		P_
7440-66-6	Zinc_____	1.0	U		P_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ME0TH8

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Matrix (soil/water): WATER Lab Sample ID: 46540.08

Level (low/med): LOW__ Date Received: 05/10/01

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	12.0	U		P
7440-36-0	Antimony_	6.0	U		P
7440-38-2	Arsenic__	3.0	U		P
7440-39-3	Barium___	39.7	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium__	1.0	U		P
7440-70-2	Calcium__	80500		E	P
7440-47-3	Chromium_	2.0	U		P
7440-48-4	Cobalt___	2.0	U		P
7440-50-8	Copper___	2.0	U		P
7439-89-6	Iron_____	82.0	B		P
7439-92-1	Lead_____	2.0	U		P
7439-95-4	Magnesium	47900			P
7439-96-5	Manganese	60.6			P
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	2.0	U		P
7440-09-7	Potassium	12300			P
7782-49-2	Selenium_	3.0	U	N	P
7440-22-4	Silver___	3.0	U		P
7440-23-5	Sodium___	20500		E	P
7440-28-0	Thallium_	5.0	U		P
7440-62-2	Vanadium_	3.0	U		P
7440-66-6	Zinc_____	1.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO. 3

ME0TH9

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Matrix (soil/water): WATER Lab Sample ID: 46540.09

Level (low/med): LOW__ Date Received: 05/10/01

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	12.0	U		P_
7440-36-0	Antimony_	6.0	U		P_
7440-38-2	Arsenic__	3.0	U		P_
7440-39-3	Barium___	12.9	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	1.0	U		P_
7440-70-2	Calcium__	52000		E	P_
7440-47-3	Chromium_	2.0	U		P_
7440-48-4	Cobalt___	2.0	U		P_
7440-50-8	Copper___	2.0	U		P_
7439-89-6	Iron_____	16.0	U		P_
7439-92-1	Lead_____	2.0	U		P_
7439-95-4	Magnesium	56800			P_
7439-96-5	Manganese	23.0			P_
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	2.0	U		P_
7440-09-7	Potassium	64400			P_
7782-49-2	Selenium_	3.0	U	N	P_
7440-22-4	Silver___	3.0	U		P_
7440-23-5	Sodium___	76900		E	P_
7440-28-0	Thallium_	5.0	U		P_
7440-62-2	Vanadium_	3.0	U		P_
7440-66-6	Zinc_____	1.0	U		P_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ME0TJ0

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Matrix (soil/water): WATER Lab Sample ID: 46540.10

Level (low/med): LOW__ Date Received: 05/10/01

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	12.0	U		P_
7440-36-0	Antimony_	6.0	U		P_
7440-38-2	Arsenic__	3.3	B		P_
7440-39-3	Barium___	30.0	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	1.0	U		P_
7440-70-2	Calcium__	235000		E	P_
7440-47-3	Chromium_	2.0	U		P_
7440-48-4	Cobalt___	2.0	U		P_
7440-50-8	Copper___	2.0	U		P_
7439-89-6	Iron____	32.9	B		P_
7439-92-1	Lead____	2.0	U		P_
7439-95-4	Magnesium	166000			P_
7439-96-5	Manganese	53.1			P_
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	7.0	B		P_
7440-09-7	Potassium	4980	B		P_
7782-49-2	Selenium_	3.0	U	N	P_
7440-22-4	Silver___	3.0	U		P_
7440-23-5	Sodium___	20900		E	P_
7440-28-0	Thallium_	5.0	U		P_
7440-62-2	Vanadium_	3.0	U		P_
7440-66-6	Zinc____	1.0	U		P_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ME0TJ1

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Matrix (soil/water): WATER Lab Sample ID: 46540.11

Level (low/med): LOW__ Date Received: 05/10/01

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	12.0	U		P
7440-36-0	Antimony_	6.0	U		P
7440-38-2	Arsenic__	10.7			P
7440-39-3	Barium___	104	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium__	1.0	U		P
7440-70-2	Calcium__	76400		E	P
7440-47-3	Chromium_	2.0	U		P
7440-48-4	Cobalt___	2.7	B		P
7440-50-8	Copper___	2.0	U		P
7439-89-6	Iron_____	16.0	U		P
7439-92-1	Lead_____	2.0	U		P
7439-95-4	Magnesium	58400			P
7439-96-5	Manganese	310			P
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	6.7	B		P
7440-09-7	Potassium	21900			P
7782-49-2	Selenium_	3.0	U	N	P
7440-22-4	Silver___	3.0	U		P
7440-23-5	Sodium___	38400		E	P
7440-28-0	Thallium_	5.3	B		P
7440-62-2	Vanadium_	3.0	U		P
7440-66-6	Zinc_____	1.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

3
BLANKS

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L_

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	12.0	U	12.0	U	12.0	U	12.9	B	-19.86	B	P
Antimony	6.0	U	6.0	U	6.0	U	6.0	U	6.00	U	P
Arsenic	3.0	U	3.0	U	3.0	U	3.0	U	3.00	U	P
Barium	1.0	U	1.0	U	1.0	U	1.0	U	1.00	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	1.00	U	P
Cadmium	1.0	U	1.0	U	1.0	U	1.0	U	1.00	U	P
Calcium	8.0	U	8.0	U	8.0	U	9.5	B	-40.72	B	P
Chromium	2.0	U	2.0	U	2.0	U	2.0	U	2.00	U	P
Cobalt	2.0	U	2.0	U	2.0	U	2.0	U	2.00	U	P
Copper	2.0	U	2.0	U	2.0	U	2.0	U	-3.46	B	P
Iron	16.0	U	16.0	U	16.0	U	16.0	U	16.00	U	P
Lead	2.0	U	2.0	U	2.0	U	2.0	U	2.00	U	P
Magnesium	40.0	U	40.0	U	40.0	U	40.0	U	40.00	U	P
Manganese	1.0	U	1.0	U	1.0	U	1.0	U	1.00	U	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.10	U	CV
Nickel	2.0	U	2.0	U	2.0	U	2.0	U	2.00	U	P
Potassium	24.0	U	24.0	U	24.0	U	24.0	U	24.00	U	P
Selenium	3.0	U	3.0	U	3.0	U	3.0	U	3.00	U	P
Silver	3.0	U	3.0	U	3.0	U	3.0	U	3.00	U	P
Sodium	18.0	U	18.0	U	18.0	U	18.0	U	18.00	U	P
Thallium	5.0	U	5.0	U	5.0	U	5.0	U	5.00	U	P
Vanadium	3.0	U	3.0	U	3.0	U	3.0	U	3.00	U	P
Zinc	1.0	U	1.0	U	1.0	U	1.0	U	-2.56	B	P

3
BLANKS

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			18.9	B							P
Antimony			6.0	U							P
Arsenic			3.0	U							P
Barium			1.5	B							P
Beryllium			1.0	U							P
Cadmium	1.0	U	1.0	U	1.0	U	1.0	U			P
Calcium			8.0	U							P
Chromium			2.0	U							P
Cobalt			2.0	U							P
Copper			2.0	U							P
Iron			16.0	U							P
Lead			2.0	U							P
Magnesium			40.0	U							P
Manganese			1.0	U							P
Mercury											NR
Nickel	2.0	U	2.0	U	2.0	U	2.0	U			P
Potassium			24.0	U							P
Selenium			3.0	U	3.0	U					P
Silver			3.0	U	3.0	U					P
Sodium			18.0	U							P
Thallium			5.0	U							P
Vanadium			3.0	U							P
Zinc			1.0	U							P

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3
BLANKS

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium			1.0	U	1.0	U					P
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium	40.0	U	40.0	U	40.0	U	40.0	U			P
Manganese											NR
Mercury											NR
Nickel			2.0	U	2.0	U					P
Potassium	-49.6	B	24.0	U	24.0	U	24.0	U			P
Selenium	3.0	U	3.0	U	3.0	U	3.0	U			P
Silver											NR
Sodium	18.0	U	18.0	U	18.0	U	18.0	U			P
Thallium											NR
Vanadium											NR
Zinc											NR

3
BLANKS

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium			40.0	U	40.0	U					P
Manganese											NR
Mercury											NR
Nickel											NR
Potassium			-50.7	B	24.0	U					P
Selenium											NR
Silver											NR
Sodium			18.0	U	18.0	U					P
Thallium											NR
Vanadium											NR
Zinc											NR

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5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ME0TH5S

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Matrix (soil/water): WATER_ Level (low/med): LOW___

% Solids for Sample: __0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2260.3680		12.0000	U	2000.00	113.0		P
Antimony	75-125	549.4120		6.0000	U	500.00	109.9		P
Arsenic	75-125	49.6750		3.0000	U	40.00	124.2		P
Barium	75-125	2208.4100		27.1500	B	2000.00	109.1		P
Beryllium	75-125	53.0120		1.0000	U	50.00	106.0		P
Cadmium	75-125	50.6930		1.0000	U	50.00	101.4		P
Calcium									NR
Chromium	75-125	208.5190		2.0000	U	200.00	104.3		P
Cobalt	75-125	488.1320		11.9720	B	500.00	95.2		P
Copper	75-125	264.8890		2.0000	U	250.00	106.0		P
Iron	75-125	1158.9890		101.9950		1000.00	105.7		P
Lead	75-125	16.2550		2.0000	U	20.00	81.3		P
Magnesium									NR
Manganese	75-125	530.5260		25.6910		500.00	101.0		P
Mercury	75-125	0.8870		0.1000	U	1.00	88.7		CV
Nickel	75-125	515.3840		12.6300	B	500.00	100.6		P
Potassium									NR
Selenium	75-125	15.6800		3.0000	U	10.00	156.8	N	P
Silver	75-125	54.0680		3.0000	U	50.00	108.1		P
Sodium									NR
Thallium	75-125	55.6040		5.0000	U	50.00	111.2		P
Vanadium	75-125	519.9260		3.0000	U	500.00	104.0		P
Zinc	75-125	526.1820		1.0000	U	500.00	105.2		P

Comments:

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5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ME0TH5A

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Matrix (soil/water) : WATER_ Level (low/med): LOW___

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
ad									NR
gnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium		12.46		3.00	U	10.0	124.6		P
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR

Comments:

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

ME0TH5D

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Matrix (soil/water): WATER Level (low/med): _LOW__

% Solids for Sample: __0.0 % Solids for Duplicate: ___0.0

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		12.0000	U	12.0000	U			P
Antimony		6.0000	U	6.0000	U			P
Arsenic		3.0000	U	3.0000	U			P
Barium		27.1500	B	27.9190	B	2.8		P
Beryllium		1.0000	U	1.0000	U			P
Cadmium		1.0000	U	1.0000	U			P
Calcium		347299.3540		362114.1970		4.2		P
Chromium		2.0000	U	2.0000	U			P
Cobalt		11.9720	B	11.1340	B	7.3		P
Copper		2.0000	U	2.0000	U			P
Iron	100.0	101.9950		116.8460		13.6		P
Lead		2.0000	U	2.0000	U			P
Magnesium		133089.9320		137835.0930		3.5		P
Manganese	15.0	25.6910		26.6300		3.6		P
Mercury		0.1000	U	0.1000	U			CV
Nickel		12.6300	B	11.9240	B	5.8		P
Potassium	5000.0	9039.9120		9333.2590		3.2		P
Selenium		3.0000	U	3.0000	U			P
Silver		3.0000	U	3.0000	U			P
Sodium		27885.8730		28647.3710		2.7		P
Thallium		5.0000	U	5.0000	U			P
Vanadium		3.0000	U	3.0000	U			P
Zinc		1.0000	U	1.0000	U			P

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9

ICP SERIAL DILUTION

EPA SAMPLE NO.

ME0TH5L

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

Matrix (soil/water): WATER Level (low/med): LOW__

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	12.00	U	60.00	U			P
Antimony	6.00	U	30.00	U			P
Arsenic	3.00	U	15.00	U			P
Barium	27.15	B	27.42	B	1.0		P
Beryllium	1.00	U	5.00	U			P
Cadmium	1.00	U	5.00	U			P
Calcium	347299.35		387282.59		11.5	E	P
Chromium	2.00	U	10.00	U			P
Cobalt	11.97	B	13.23	B	10.5		P
Copper	2.00	U	10.00	U			P
Iron	101.99		96.91	B	5.0		P
Lead	2.00	U	10.00	U			P
Magnesium	133089.93		137423.42		3.3		P
Manganese	25.69		27.57	B	7.3		P
Mercury							NR
Nickel	12.63	B	12.55	B	0.6		P
Potassium	9039.91		9317.28	B	3.1		P
Selenium	3.00	U	15.00	U			P
Silver	3.00	U	15.00	U			P
Sodium	27885.87		32224.44		15.6	E	P
Thallium	5.00	U	25.00	U			P
Vanadium	3.00	U	15.00	U			P
Zinc	1.00	U	5.00	U			P

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10
Instrument Detection Limits (Quarterly)

L. Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

ICP ID Number: TJA_ET2_____ Date: 03/12/01

Flame AA ID Number : _____

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.20		200	12.0	P
Antimony	206.83		60	6.0	P
Arsenic	189.04		10	3.0	P
Barium	493.41		200	1.0	P
Beryllium	313.04		5	1.0	P
Cadmium	226.50		5	1.0	P
Calcium	317.93		5000	8.0	P
Chromium	267.72		10	2.0	P
Cobalt	228.62		50	2.0	P
Copper	324.75		25	2.0	P
Iron	271.44		100	16.0	P
Lead	220.35		3	2.0	P
Magnesium	279.08		5000	40.0	P
Manganese	257.61		15	1.0	P
Mercury			0.2		NR
Nickel	231.60		40	2.0	P
Potassium	766.49		5000	24.0	P
Selenium	196.03		5	3.0	P
Silver	328.07		10	3.0	P
Sodium	588.99		5000	18.0	P
Thallium	190.87		10	5.0	P
Vanadium	292.40		50	3.0	P
Zinc	213.86		20	1.0	P

Comments:

10
Instrument Detection Limits (Quarterly)

Lab Name: AMERICAN_ANALYTICAL_AND_T Contract: 68W00086__

Lab Code: AATS__ Case No.: 29241_ SAS No.: _____ SDG No.: ME0TH3

ICP ID Number: _____ Date: 05/07/01

Flame AA ID Number : LEEMAN_B____

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury	254.00		0.2	0.1	CV
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

Comments: