ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

US EPA RECORDS CENTER REGION 5
482386

CRL Receipt Date 3/2/89 FIT Receipt Date 3/10/89 Review Completed 3/10/89

TO: Skinner
FROM: Mary Gzyra
SUBJECT: Titanium Metals.
PAN: 040803SA (1 hour charged for review) Case # 11111

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
#	Low Soil	# 14	Low Soil
	Low Water		Low Water
	Drinking Water		Drinking Water
	Other		Other

Project Data Status XXX Completed!!

Incomplete, awaiting

FIT Data Review Findings:

As, Cr, Pb, Hg, detected

Check Data Sheets for Transcription Errors

✓ Compounds were detected in sample(s); see enclosed sheet.

Book No. 9 Page No. Date Sampled 12/13

0759:2

recycled paper

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111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

International Specialists in the Environment

MEMORANDUM

DATE: 3/10/89

TO: File

FROM: Mary Gzyra

SUBJECT: Titanium Metals

PAN Case # 11111 - Soils.

Below is a list of elements whose spike recoveries were biased low:

Element	Spike Recovery
Chromium	66.2 %

The low recoveries rates biases the data low, thereby raising the detection limits and estimating any reported values. This means that in the worst case the true concentration is greater than the reported values and the data is an underestimation.

It is the opinion of this reviewer that the data is acceptable for HRS scoring.

0759:2

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ecology and environment

3/10/89

Table 4-> Cont.

2070-13				Sample Collection Information and Parameters	Sample Number											
Physical State*	Waste Characteristics**	Category***	SI Memo		>_1	>_2	>_3	>_4	>_5	>_6	>_7	>_8	>_9	>_10	>_11	>_12
					513	514										
				Analyte Detected (values in > mg/kg or µg/L)	MEBW28	43										
Solid	A,D	MES	CSC	aluminum	9390	9120										
Solid	A,D	MES	HM	antimony												
Solid	A,D	MES	HM	arsenic	6.8	7.0										
Solid	A,D	MES	CSC	barium	90.9	124										
Solid	A,D	MES	M	beryllium	1.3	1.2										
Solid	A,D	MES	HM	cadmium												
Solid	D	MES	CSC	calcium	5340	8060										
Solid	A,D	MES	HM	chromium	28.2	26.8										
Solid	A,D	MES	HM	cobalt	15.4	10.7 B										
Solid	A,D	MES	HM	copper	45.2	20.6										
Solid	A,D	MES	HM,CSC	iron	55000	29200										
Solid	A,D	MES	HM	lead	31.6	40.3										
Solid	A,D	MES	CSC	magnesium	2930	3260										
Solid	A,D	MES	HM	manganese	1380	1410										
Liquid	A,D	MES	HM	mercury		0.17										
Solid	A,D	MES	HM	nickel	29.5	21.1										
Solid	D	MES	CSC	potassium	926 B	1210										
Solid	A,D	MES	M	selenium	0.15 JNB	0.42 JNB										
Solid	A,D	MES	HM	silver	0.74 B											
Solid	D	MES	CSC	sodium	209 JB	205 JB										
Solid	A,D	MES	HM	thallium												
Solid	A,D	MES	HM	vanadium	31.9	23.3										
Solid	A,D	MES	CSC,HM	zinc	134	122										
Solid	A	IOC	IOC	cyanide	0.72											

-- Not detected.

3/10/89

Table 4-> Cont.

2070-13 Physical State*	Waste Characteristics**	Category***	SI Memo	Sample Collection Information and Parameters	Sample Number >S1	>S2	>S3	>S4	>S5	>S6	>S7	>S8	>S9	>S10	>S11	>S12
				Analyte Detected (values in > mg/kg or µg/L)	MEBW 16	17	18	19	20	21	22	23	24	25	26	27
Solid	A,D	MES	CSC	aluminum	10200	9520	9460	8640	8140	9580	14500	35800	11600	8530	8480	15300
Solid	A,D	MES	HM	antimony												8.2 JNB
Solid	A,D	MES	HM	arsenic	7.1	11.2	9.1	6.0	5.4	15.2	13.6	0.67 JWB	10.1 JW	28.1	19.9	14.1
Solid	A,D	MES	CSC	barium	113	89.3	119	89.2	164	158	171	339	51	75.2	79.7	175
Solid	A,D	MES	M	beryllium	1.6	1.2 B		2.0	2.0	1.8	2.1	7.3	1.0 B	1.1	0.86 B	1.5
Solid	A,D	MES	HM	cadmium			0.46 B			1.7	1.3 B			1.3	0.98 B	12.9
Solid	D	MES	CSC	calcium	7340	4580	17600	18300	24800	50500	1690	179000	1360	5460	20400	60800
Solid	A,D	MES	HM	chromium	22.6	38.1	61.9	50	103	227	19.8	67.1	14.4	20	17.7	570
Solid	A,D	MES	HM	cobalt	18	10.4 B	9.3 B	13	17.1	22.6	20.3	3.1 B	10.1 B	9.6 B	8.8 B	12.5 B
Solid	A,D	MES	HM	copper	33.3	59.8	150	50	218	130	47.3	28.5	19.5	40	46.5	207
Solid	A,D	MES	HM,CSC	iron	29200	37800	34900	56900	43200	62600	40600	13500	27200	40000	30900	70400
Solid	A,D	MES	HM	lead	51.6	111	177	52	36	113	57.8	45.7	13.4	86	81.8	471
Solid	A,D	MES	CSC	magnesium	3360	2300	5310	6330	8200	5330	2450	35600	2340	2280	3060	18500
Solid	A,D	MES	HM	manganese	883	397	1940	1410	1630	3270	848	5060	535	671	556	5170
Liquid	A,D	MES	HM	mercury			0.34			1.2	0.18					0.46
Solid	A,D	MES	HM	nickel	33	21.3	27.1	25.8	32.6	431	46.2	17.3	18.9	25.8	19	70.3
Solid	D	MES	CSC	potassium	2000	1040 B	929 B	740 B	517 B	713 B	1360	3540	1020 B	880 B	776 B	1470
Solid	A,D	MES	M	selenium	0.34 JNB	0.64 JNB	0.54 JWNB	0.12 JWNB	0.19 JNB	0.51 JWNB	0.78 JNB	0.98 JNB		0.28 JNB	0.12 JNB	0.48 JNB
Solid	A,D	MES	HM	silver			0.64 B			0.91 B						
Solid	D	MES	CSC	sodium	186 JB	333 JB	239 JB	283 JB	254 JB	339 JB	249 JB	892 B	161 JB	420 B	181 JB	429 JB
Solid	A,D	MES	HM	thallium	0.14 B		0.30 B	0.37 B	0.35 B	0.35 B	0.34 B	0.10 JWB		0.33 JB	0.38 JB	
Solid	A,D	MES	HM	vanadium	29.6	61.7	42	125	68.7	43.6	25.9	61.3	19.8	23	19	296
Solid	A,D	MES	CSC,HM	zinc	118	113	274	240	212	366	328	157	59.6	271	360	1050
Solid	A	IOC	IOC	cyanide		1.4		0.70		0.82		2.1		0.80		

-- Not detected.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

3/10/89

DATE: 3-9-89

SUBJECT: Review of Region V CLP Data Received for Review on 3-2-89

FROM: Curtis Ross, Director (5SCRL) Central Regional Laboratory — Jay Thakkar

TO: Data User: Pit

We have reviewed the data for the following case(s).

SITE NAME: Titanium Metals SMO Case No. 11111

EPA Data Set No. SF-5815 No. of Samples: 14 D.U./Activity Numbers V905/TEA102

CRL No. 89F508505-18

SMO Traffic No. MEBW 16, -28, 43

CLP Laboratory: York Hrs. Required for Review: 139 JWG + 1 Hr LK 3/8/8

Following are our findings:

The laboratory's portion of case # 11111 contains 14 low level soil samples analyzed for total metals and total cyanide (SDG # MEBW 16).

JWG

see next page

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: York

Case ////

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

ICP Analyses: The 57.2% Sb spike recovery indicates a low bias and Sb on MEBW27 is estimated (J); all other Sb data are estimated (UJ) due to possible elevation of the detection limits. The Be data were flagged "*". however, the duplicate difference was < 2xCRDL. All Be data are acceptable. The Cr data were flagged "*"; however, the 27.7% duplicate RPD is within the 35% limit for soils. The 66.2% Cr spike recovery indicates a low bias and all Cr data are estimated (J). The preparation blank was found to contain Na at 69.8 mg/Kg. All Na results except that on MEBW25 and MEBW23 are estimated (J) due to contamination. The "E" flag from the MEBW19 Be result was eliminated by the reviewer.

GFAA Analyses: The As result on sample MEBW21 was corrected by the reviewer. As on MEBW24 should have been assayed by MSA; a "W" flag was added to this result by the reviewer. As on MEBW23 was flagged "W" by the laboratory. As on MEBW23,24 are estimated (J) due to interference. The Se spike audit (58.2% recovery) indicates possible elevation of the detection limits and Se on MEBW24 is estimated (UJ). Se on MEBW22,23 are estimated (J) due to a low bias.

The calibration blank was found to contain Se at 1.0 µg/L and the preparation blank was found to contain Se at 0.1 mg/Kg. Se data on samples MEBW16,17,20,25-28,43 are estimated (J) due to contamination and a low bias. Samples MEBW18,19,21 Se results were also flagged "W" and are estimated (J) due to interference, contamination, and a low bias. Tl on MEBW23 was flagged "W" indicating interference and is estimated (J). The calibration blank was found to contain 2.3 µg/L Tl. Tl results on samples MEBW25,26 are estimated (J) due to contamination.

Reviewed by: John W Garg 3/6/89

Phone:

DATA QUALIFIERS

Contractor: York

Case 11111

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

Other Qualifiers: All mercury and cyanide data are acceptable.

Reviewed by: John W. Gang 3/6/89

Phone:

QC EXCEPTION SUMMARY REPORT

CASE # 1111
DATA SET # SF5815
LAB Q.C. #
DATE: 3/3/89

SITE Titanium Metals
LAB York
REVIEWED BY John Gonz

MATRIX: Soil
CONC. : Low
MATRIX :
CONC. :

WATER SAMPLE SPK.
WATER SAMPLE DUP.
SOIL SAMPLE SPK.
SOIL SAMPLE DUP.

	OVERALL CASE QC									MATRIX SPECIFIC QC						SAMPLE SPECIFIC QC		FIELD QC			REGIONAL QC			OTHER/ COMMENTS
	Holding Time	Cal Blanks	Int Calcs	Comm Calcs	Prep Blk AQ	Prep Blk SOL	ICS %R	LCS % AQ	LCS % SOL	Sol Dup RPD	Sol Spk %R	AQ Dup RPD	AQ Spk %R	Ser Dilu AQ	Ser Dilu SOL	GFAA Dup	GFAA Spike	Blank	Dup RPD	Spike %R	Shad Blank	Shad Spike %R	Spike Sample RPD	
Aluminum																								
Antimony											57.2													
Arsenic																								
Barium										(2.06)	OK													
Beryllium		0.2																						
Cadmium																								
Calcium										OK														
Chromium										(27.7)	66.2													
Cobalt																								
Copper		11.4																						
Iron																								
Lead		4.8				.08																		
Magnesium																								
Manganese																								
Mercury																								
Nickel																								
Potassium																								
Selenium		1				.1					59.2													
Silver																								
Sodium						69.8																		
Thallium		2.3																						
Tin																								
Vanadium																								
Zinc																								
Cyanide																								

Sample date 12/13/88

Region V

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. 11111 SITE Titanium Metals

LABORATORY York NO. OF SAMPLES/ MATRIX 14/Soil

SDG# MEBW16 REVIEWER (IF NOT ESD) Weston/ESAT

SOW# 787 REVIEWER'S NAME John Ganz

DPO: ACTION _____ FYI _____ COMPLETION DATE _____

DATA ASSESSMENT SUMMARY

		ICP	AA	Hg	CYANIDE
1.	HOLDING TIMES	O	O	O	O
2.	CALIBRATIONS				
3.	BLANKS				
4.	ICS				
5.	LCS				
6.	DUPLICATE ANALYSIS				
7.	MATRIX SPIKE				
8.	MSA				
9.	SERIAL DILUTION				
10.	SAMPLE VERIFICATION				
11.	OTHER QC				
12.	OVERALL ASSESSMENT				

O = Data had no problems/or qualified due to minor problems.
M = Data qualified due to major problems.
Z = Data unacceptable.
X = Problems, but do not affect data.

ACTION ITEMS: _____

AREAS OF CONCERN: _____

NOTABLE PERFORMANCE: _____

U.S. EPA - CLP

000 07 EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

MEBW16

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Lab Sample ID: 0315001

Level (low/med): LOW Date Received: 12/14/88

% Solids: 84.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10200			P
7440-36-0	Antimony	5.1	U	IN	P
7440-38-2	Arsenic	7.1			F
7440-39-3	Barium	113		*	P
7440-41-7	Beryllium	1.6			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	7340			P
7440-47-3	Chromium	22.6		N*	P
7440-48-4	Cobalt	18.0			P
7440-50-8	Copper	33.3			P
7439-89-6	Iron	29200			P
7439-92-1	Lead	51.6			P
7439-95-4	Magnesium	3360			P
7439-96-5	Manganese	883			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	33.0			P
7440-09-7	Potassium	2000			P
7782-49-2	Selenium	0.34	B	IN	F
7440-22-4	Silver	0.45	U		P
7440-23-5	Sodium	186	B		P
7440-28-0	Thallium	0.14	B		F
7440-62-2	Vanadium	29.6			P
7440-66-6	Zinc	118			P
	Cyanide	0.59	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

000 08

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MEBW17

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Lab Sample ID: 0315002

Level (low/med): LOW Date Received: 12/14/88

% Solids: 48.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9520			P
7440-36-0	Antimony	8.9	U	N	P
7440-38-2	Arsenic	11.2			F
7440-39-3	Barium	85.3		*	P
7440-41-7	Beryllium	1.2	B		P
7440-43-9	Cadmium	0.54	U		P
7440-70-2	Calcium	4580			P
7440-47-3	Chromium	38.1		N*	P
7440-48-4	Cobalt	10.4	B		P
7440-50-8	Copper	59.8			P
7439-89-6	Iron	37800			P
7439-92-1	Lead	111			P
7439-95-4	Magnesium	2300			P
7439-96-5	Manganese	397			P
7439-97-6	Mercury	0.16	U		CV
7440-02-0	Nickel	21.3			P
7440-09-7	Potassium	1040	B		P
7782-49-2	Selenium	0.64	B	N	F
7440-22-4	Silver	0.78	U		P
7440-23-5	Sodium	333	B		P
7440-28-0	Thallium	0.11	U		F
7440-62-2	Vanadium	61.7			P
7440-66-6	Zinc	113			P
	Cyanide	1.4			C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

000 09

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

MERW18

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MERW16

Matrix (soil/water): SOIL Lab Sample ID: 0315003

Level (low/med): LOW Date Received: 12/14/88

% Solids: 62.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9460			P
7440-36-0	Antimony	5.6	U	N	P
7440-38-2	Arsenic	9.1			F
7440-39-3	Barium	119		*	P
7440-41-7	Beryllium	0.05	U		P
7440-43-9	Cadmium	0.46	B		P
7440-70-2	Calcium	17600			P
7440-47-3	Chromium	61.9		N*	P
7440-48-4	Cobalt	9.3	B		P
7440-50-8	Copper	150			P
7439-89-6	Iron	34800			P
7439-92-1	Lead	129			P
7439-95-4	Magnesium	5310			P
7439-96-5	Manganese	1840			P
7439-97-6	Mercury	0.34			CV
7440-02-0	Nickel	27.1			P
7440-09-7	Potassium	929	B		P
7782-49-2	Selenium	0.54	B	NW	F
7440-22-4	Silver	0.64	B		P
7440-23-5	Sodium	239	B		P
7440-28-0	Thallium	0.30	B		F
7440-62-2	Vanadium	42.0			P
7440-66-6	Zinc	274			P
	Cyanide	0.86	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1 000 10

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEBW19

Lab Name: YORKLORS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Lab Sample ID: 0315004

Level (low/med): LOW Date Received: 12/14/88

% Solids: ~~62.0~~ 76.6 KMC 2/27

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	8640			P	
7440-36-0	Antimony	5.6 ~~4.5~~	U	N	P	KMC 2/27
7440-38-2	Arsenic	6.0			F	
7440-39-3	Barium	89.2		*	P	
7440-41-7	Beryllium	2.0		E and *	P	
7440-43-9	Cadmium	0.35 ~~0.43~~	U		P	KMC 2/27
7440-70-2	Calcium	18300			P	
7440-47-3	Chromium	50.0		N*	P	
7440-48-4	Cobalt	13.0			P	
7440-50-8	Copper	50.0			P	
7439-89-6	Iron	56900			P	
7439-92-1	Lead	52.0			P	
7439-95-4	Magnesium	6330			P	
7439-96-5	Manganese	1410			P	
7439-97-6	Mercury	0.10 ~~0.12~~	U		CV	KMC 2/27
7440-02-0	Nickel	25.8			P	
7440-09-7	Potassium	740	B		P	
7782-49-2	Selenium	0.12	B	NW	F	
7440-22-4	Silver	0.49 ~~0.61~~	U		P	KMC 2/27
7440-23-5	Sodium	283	B		P	
7440-28-0	Thallium	0.37	B		F	
7440-62-2	Vanadium	125			P	
7440-66-6	Zinc	240			P	
	Cyanide	0.70 ~~0.88~~			C	KMC 2/27

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP **000 11** EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

MEBW20

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Lab Sample ID: 0315005

Level (low/med): LOW Date Received: 12/14/88

% Solids: 75.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8140			P
7440-36-0	Antimony	4.4	U	N	P
7440-38-2	Arsenic	5.4			F
7440-39-3	Barium	164		*	P
7440-41-7	Beryllium	2.0			P
7440-43-9	Cadmium	0.27	U		P
7440-70-2	Calcium	24800			P
7440-47-3	Chromium	103		N*	P
7440-48-4	Cobalt	17.1			P
7440-50-8	Copper	218			P
7439-89-6	Iron	48200			P
7439-92-1	Lead	36.0			P
7439-95-4	Magnesium	8200			P
7439-96-5	Manganese	1630			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	32.6			P
7440-09-7	Potassium	517	B		P
7782-49-2	Selenium	0.19	B	N	F
7440-22-4	Silver	0.39	U		P
7440-23-5	Sodium	254	B		P
7440-28-0	Thallium	0.35	B		F
7440-62-2	Vanadium	68.7			P
7440-66-6	Zinc	212			P
	Cyanide	0.68	U		C

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

000 12

EPA SAMPLE NO.

MEBW21

INORGANIC ANALYSIS DATA SHEET

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Lab Sample ID: 0315006

Level (low/med): LOW Date Received: 12/14/88

% Solids: 61.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9580			P
7440-36-0	Antimony	6.3	U	N	P
7440-38-2	Arsenic	gwb 15.2 ~~7.6~~		S	F
7440-39-3	Barium	158		*	P
7440-41-7	Beryllium	1.8			P
7440-43-9	Cadmium	1.7			P
7440-70-2	Calcium	50500			P
7440-47-3	Chromium	227		N*	P
7440-48-4	Cobalt	22.6			P
7440-50-8	Copper	130			P
7439-89-6	Iron	62600			P
7439-92-1	Lead	113			P
7439-95-4	Magnesium	5330			P
7439-96-5	Manganese	3270			P
7439-97-6	Mercury	1.2			CV
7440-02-0	Nickel	431			P
7440-09-7	Potassium	713	B		P
7782-49-2	Selenium	0.51	B	NW	F
7440-22-4	Silver	0.91	B		P
7440-23-5	Sodium	339	B		P
7440-28-0	Thallium	0.35	B		F
7440-62-2	Vanadium	43.6			P
7440-66-6	Zinc	366			P
	Cyanide	0.82			C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MERW22

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MERW16

Matrix (soil/water): SOIL Lab Sample ID: 0315007

Level (low/med): LOW Date Received: 12/14/88

% Solids: 69.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14500			P
7440-36-0	Antimony	6.2	U	N	P
7440-38-2	Arsenic	13.6			F
7440-39-3	Barium	171		*	P
7440-41-7	Beryllium	2.1			P
7440-43-9	Cadmium	1.3	B		P
7440-70-2	Calcium	1690			P
7440-47-3	Chromium	15.8		N*	P
7440-48-4	Cobalt	30.3			P
7440-50-8	Copper	47.3			P
7439-89-6	Iron	40600			P
7439-92-1	Lead	57.8			P
7439-95-4	Magnesium	2450			P
7439-96-5	Manganese	848			P
7439-97-6	Mercury	0.18			CV
7440-02-0	Nickel	46.2			P
7440-09-7	Potassium	1360			P
7782-49-2	Selenium	0.79	B	N	F
7440-22-4	Silver	0.54	U		P
7440-23-5	Sodium	249	B		P
7440-28-0	Thallium	0.34	B		F
7440-62-2	Vanadium	25.9			P
7440-66-6	Zinc	328			P
	Cyanide	0.74	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

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INORGANIC ANALYSIS DATA SHEET

MEBW23

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Lab Sample ID: 0315008

Level (low/med): LOW Date Received: 12/14/88

% 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	35800			P
7440-36-0	Antimony	4.7	U	N	P
7440-38-2	Arsenic	0.67	B	W	F
7440-39-3	Barium	339		*	P
7440-41-7	Beryllium	7.3			P
7440-43-9	Cadmium	0.29	U		P
7440-70-2	Calcium	179000			P
7440-47-3	Chromium	67.1		N*	P
7440-48-4	Cobalt	3.1	B		P
7440-50-8	Copper	28.5			P
7439-89-6	Iron	13500			P
7439-92-1	Lead	45.7			P
7439-95-4	Magnesium	35600			P
7439-96-5	Manganese	5060			P
7439-97-6	Mercury	0.08	U		CV
7440-02-0	Nickel	18.3			P
7440-09-7	Potassium	3540			P
7782-49-2	Selenium	0.98	B	N	F
7440-22-4	Silver	0.41	U		P
7440-23-5	Sodium	892	B		P
7440-28-0	Thallium	0.10	B	W	F
7440-62-2	Vanadium	61.3			P
7440-66-6	Zinc	157			P
	Cyanide	2.1			C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
BERYLLIUM RESULT CONFIRMED GRAPHICALLY.

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EPA SAMPLE NO.

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INORGANIC ANALYSIS DATA SHEET

MERW24

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MERW16

Matrix (soil/water): SOIL Lab Sample ID: 0315009

Level (low/med): LOW Date Received: 12/14/88

% Solids: 83.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11600			P
7440-36-0	Antimony	5.2	U	N	P
7440-38-2	Arsenic	10.1		W gwb	F
7440-39-3	Barium	51.0		*	P
7440-41-7	Beryllium	1.0	B		P
7440-43-9	Cadmium	0.32	U		P
7440-70-2	Calcium	1360			P
7440-47-3	Chromium	14.4		N*	P
7440-48-4	Cobalt	10.1	B		P
7440-50-8	Copper	19.5			P
7439-89-6	Iron	27200			P
7439-92-1	Lead	13.4		S	F
7439-95-4	Magnesium	2340			P
7439-96-5	Manganese	535			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	18.9			P
7440-09-7	Potassium	1020	B		P
7782-49-2	Selenium	0.05	U	N	F
7440-22-4	Silver	0.46	U		P
7440-23-5	Sodium	161	B		P
7440-28-0	Thallium	0.07	U		F
7440-62-2	Vanadium	19.8			P
7440-66-6	Zinc	59.6			P
	Cyanide	0.60	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

MERW25

INORGANIC ANALYSIS DATA SHEET

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MERW16

Matrix (soil/water): SOIL Lab Sample ID: 0315010

Level (low/med): LOW Date Received: 12/14/88

% Solids: 82.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8580			P
7440-36-0	Antimony	4.8	U	N	P
7440-38-2	Arsenic	28.1			F
7440-39-3	Barium	75.2		*	P
7440-41-7	Beryllium	1.1			P
7440-43-9	Cadmium	1.3			P
7440-70-2	Calcium	5460			P
7440-47-3	Chromium	20.0		N*	P
7440-48-4	Cobalt	9.6	B		P
7440-50-8	Copper	40.0			P
7439-89-6	Iron	40000			P
7439-92-1	Lead	86.0			P
7439-95-4	Magnesium	2280			P
7439-96-5	Manganese	671			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	25.8			P
7440-09-7	Potassium	800	B		P
7782-49-2	Selenium	0.28	B	N	F
7440-22-4	Silver	0.42	U		P
7440-23-5	Sodium	420	B		P
7440-28-0	Thallium	0.33	B		F
7440-62-2	Vanadium	23.0			P
7440-66-6	Zinc	271			P
	Cyanide	0.80			C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MERW26

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MERW16

Matrix (soil/water): SOIL Lab Sample ID: 0315011

Level (low/med): LOW Date Received: 12/14/88

% Solids: 83.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8480			P
7440-36-0	Antimony	4.6	U	N	P
7440-38-2	Arsenic	19.9			F
7440-39-3	Barium	79.7		*	P
7440-41-7	Beryllium	0.86	B		P
7440-43-9	Cadmium	0.48	B		P
7440-70-2	Calcium	20400			P
7440-47-3	Chromium	17.7		N*	P
7440-48-4	Cobalt	8.8	B		P
7440-50-8	Copper	46.5			P
7439-89-6	Iron	30900			P
7439-92-1	Lead	81.8			P
7439-95-4	Magnesium	3060			P
7439-96-5	Manganese	556			P
7439-97-6	Mercury	0.07	U		CV
7440-02-0	Nickel	19.0			P
7440-09-7	Potassium	776	B		P
7782-49-2	Selenium	0.12	B	N	F
7440-22-4	Silver	0.40	U		P
7440-23-5	Sodium	181	B		P
7440-28-0	Thallium	0.38	B		F
7440-62-2	Vanadium	19.0			P
7440-66-6	Zinc	360			P
	Cyanide	0.60	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

MEBW27

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Lab Sample ID: 0315012

Level (low/med): LOW Date Received: 12/14/88

% Solids: 67.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15300			P
7440-36-0	Antimony	8.2	B	N	P
7440-38-2	Arsenic	14.1			F
7440-39-3	Barium	175		*	P
7440-41-7	Beryllium	1.5			P
7440-43-9	Cadmium	12.9			P
7440-70-2	Calcium	60000			P
7440-47-3	Chromium	570		N*	P
7440-48-4	Cobalt	12.5	B		P
7440-50-8	Copper	207			P
7439-89-6	Iron	70400			P
7439-92-1	Lead	471			P
7439-95-4	Magnesium	18500			P
7439-96-5	Manganese	5170			P
7439-97-6	Mercury	0.46			CV
7440-02-0	Nickel	70.3			P
7440-09-7	Potassium	1470			P
7782-49-2	Selenium	0.48	B	N	F
7440-22-4	Silver	0.51	U		P
7440-23-5	Sodium	429	B		P
7440-28-0	Thallium	0.09	U		F
7440-62-2	Vanadium	296			P
7440-66-6	Zinc	1050			P
	Cyanide	0.77	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

MEBW28

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Lab Sample ID: 0315013

Level (low/med): LOW Date Received: 12/14/88

% Solids: 88.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9390			P
7440-36-0	Antimony	5.0	U	N	P
7440-38-2	Arsenic	6.8			F
7440-39-3	Barium	90.9		*	P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	5340			P
7440-47-3	Chromium	28.2		N*	P
7440-48-4	Cobalt	15.4			P
7440-50-8	Copper	45.2			P
7439-89-6	Iron	55000			P
7439-92-1	Lead	31.6			P
7439-95-4	Magnesium	2930			P
7439-96-5	Manganese	1380			P
7439-97-6	Mercury	0.07	U		CV
7440-02-0	Nickel	29.5			P
7440-09-7	Potassium	926	B		P
7782-49-2	Selenium	0.15	B	N	F
7440-22-4	Silver	0.74	B		P
7440-23-5	Sodium	209	B		P
7440-28-0	Thallium	0.07	U		F
7440-62-2	Vanadium	31.9			P
7440-66-6	Zinc	134			P
	Cyanide	0.72			C

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET 000 20

MEBW43

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Lab Sample ID: 0315014

Level (low/med): LOW Date Received: 12/14/88

% Solids: 63.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9120			P
7440-36-0	Antimony	5.0	U	N	P
7440-38-2	Arsenic	7.0			F
7440-39-3	Barium	124		*	P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	8060			P
7440-47-3	Chromium	26.8		N*	P
7440-48-4	Cobalt	10.7	B		P
7440-50-8	Copper	20.6			P
7439-89-6	Iron	29200			P
7439-92-1	Lead	40.3			P
7439-95-4	Magnesium	3260			P
7439-96-5	Manganese	1410			P
7439-97-6	Mercury	0.17			CV
7440-02-0	Nickel	21.1			P
7440-09-7	Potassium	1210			P
7782-49-2	Selenium	0.42	B	N	F
7440-22-4	Silver	0.44	U		P
7440-23-5	Sodium	205	B		P
7440-28-0	Thallium	0.09	U		F
7440-62-2	Vanadium	23.3			P
7440-66-6	Zinc	122			P
	Cyanide	0.82	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

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000 02

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MERW16

SOW No.: 7/87

EPA Sample No.	Lab Sample ID.
MERW16	0315001
MERW17	0315002
MERW18	0315003
MERW18D	03150033
MERW18S	03150035
MERW19	0315004
MERW20	0315005
MERW21	0315006
MERW22	0315007
MERW23	0315008
MERW24	0315009
MERW24D	03150090
MERW24S	03150092
MERW25	0315010
MERW26	0315011
MERW27	0315012
MERW28	0315013
MERW43	0315014

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:

Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Lab Manager: _____

Date: _____

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BLANKS

000 32

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): 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	27.4	U	-50.2	B	-66.0	B	-56.0	B	5.480	U	P
Antimony	22.8	U	22.8	U	22.8	U	22.8	U	4.560	U	P
Arsenic	-0.6	B	-0.3	B	-0.5	B	-0.7	B	-0.260	B	P
Barium	8.3	U	8.3	U	8.3	U	8.3	U	1.660	U	P
Beryllium	0.2	U	0.2	B	-0.2	B	0.2	B	0.040	U	P
Cadmium	1.4	U	1.4	U	1.4	U	1.4	U	0.280	U	P
Calcium	35.8	U	35.8	U	35.8	U	35.8	U	7.160	U	P
Chromium	2.1	U	-2.2	B	-2.1	B	2.1	U	0.420	U	P
Cobalt	5.0	U	5.0	U	-6.3	B	5.0	U	1.000	U	P
Copper	3.4	U	3.4	U	11.4	B	3.4	U	0.680	U	P
Iron	61.1	U	61.1	U	61.1	U	61.1	U	12.220	U	P
Lead	15.7	U	15.7	U	15.7	U	15.7	U	3.140	U	P
Magnesium	38.2	U	38.2	U	38.2	U	38.2	U	7.640	U	P
Manganese	0.8	U	0.8	U	0.8	U	0.8	U	0.160	U	P
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.100	U	CV
Nickel	5.0	U	5.0	U	5.0	U	5.0	U	1.000	U	P
Potassium	568.0	U	568.0	U	568.0	U	568.0	U	113.600	U	P
Selenium	0.5	B	1.0	B	0.6	B	0.4	B	0.100	B	P
Silver	2.0	U	-3.2	B	-2.4	B	2.0	U	-0.542	B	P
Sodium	202.4	U	202.4	U	202.4	U	202.4	U	69.798	B	P
Thallium	-0.7	B	-2.0	B	0.3	U			0.060	U	P
Vanadium	5.2	U	5.2	U	5.2	U	5.2	U	1.040	U	P
Zinc	1.8	U	1.8	U	-1.9	B	1.8	U	0.360	U	P
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	C

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BLANKS

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): 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			-63.1	B	-48.8	B	-47.9	B			P
Antimony			22.8	U	22.8	U	22.8	U			P
Arsenic	-1.5	B	-1.6	B	-1.4	B					F
Barium			8.3	U	8.3	U	8.3	U			P
Beryllium			0.2	B	0.2	B	0.2	U			P
Cadmium			1.4	U	1.4	U	1.4	U			P
Calcium			35.8	U	35.8	U	35.8	U			P
Chromium			2.1	U	2.1	U	2.1	U			P
Cobalt			5.0	U	5.0	U	5.0	U			P
Copper			3.4	U	-3.4	B	3.4	U			P
Iron			61.1	U	61.1	U	61.1	U			P
Lead			3.0	B	4.8	B	-3.9	B	0.080	B	F
Magnesium			38.2	U	38.2	U	38.2	U			P
Manganese			0.8	U	0.8	U	0.8	U			P
Mercury											
Nickel			5.0	U	5.0	U	5.0	U			P
Potassium			568.0	U	568.0	U	568.0	U			P
Selenium			0.2	B							F
Silver			-2.2	B	2.0	U	2.0	U			P
Sodium			202.4	U	202.4	U	202.4	U			P
Thallium	2.3	B	0.3	U							F
Vanadium			5.2	U	5.2	U	5.2	U			P
Zinc			1.8	U	1.8	U	1.8	U			P
Cyanide											

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BLANKS

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MERW16

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): 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											
Antimony											
Arsenic	-1.1	B	-1.0	B	-0.7	B					F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	0.3	U	-0.3	B							F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium	0.4	B	-1.0	B	-0.6	B					F
Silver											
Sodium											
Thallium	-0.6	B	0.3	U	0.3	U	0.3	U			F
Vanadium											
Zinc											
Cyanide											

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BLANKS

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Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MERW16

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): 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											
Antimony											
Arsenic	0.3	U	0.3	U							F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	0.3	B	0.4	B	0.6	B					F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

3
BLANKS

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): 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											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	0.3	U	-0.4	B	-0.8	B					F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

000 38 EPA SAMPLE NO.

MEBW18S

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Level (low/med): LOW

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	75.5949		5.6144	U	132.2	57.2	N	P
Arsenic	75-125	20.2491		9.1099		12.8	87.0		F
Barium	75-125	630.9572		119.3869		528.8	96.7		P
Beryllium	75-125	13.1861		0.0492	U	13.2	99.9		P
Cadmium	75-125	13.6092		0.4605	B	13.2	99.6		P
Calcium									NR
Chromium	75-125	96.9513		61.9207		52.9	66.2	N	P
Cobalt	75-125	136.0127		9.2859	B	132.2	95.9		P
Copper	75-125	205.8197		150.3324		66.1	83.9		P
Iron									NR
Lead	75-125	248.1253		129.0446		132.2	90.1		P
Magnesium									NR
Manganese		1380.8567		1838.3600		132.2	-346.1		P
Mercury	75-125	0.9429		0.3436		0.6	99.9		CV
Nickel	75-125	154.8810		27.0968		132.2	96.7		P
Potassium									NR
Selenium	75-125	8.2824		0.5376	B	3.0	58.2	N	F
Silver	75-125	12.1259		0.6402	B	13.2	87.0		P
Sodium									NR
Thallium	75-125	14.1808		0.2987	B	16.0	86.8		F
Vanadium	75-125	172.5278		41.9872		132.2	98.7		P
Zinc	75-125	389.0217		274.3832		132.2	86.7		P
Cyanide									NR

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

000 29 EPA SAMPLE NO.

MEBW24S

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Level (low/med): LOW

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike 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
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide	75-125	5.8877		0.6048	U	6.2	95.0		C

Comments:

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5A

SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEBW18S

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Level (low/med): LOW

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike 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
Lead		112.4241		129.0383		6.4	-259.5		F
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:
FURNACE DATA

5B

EPA SAMPLE NO.

POST DIGEST SPIKE SAMPLE RECOVERY

MEBW18A

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony		137.00		22.80	U	120.0	114.2		P
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium		775.89		251.46		500.0	104.9		P
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

6
DUPLICATES

000 42

EPA SAMPLE NO.

MEBW18D

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 62.0 % Solids for Duplicate: 60.8

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		9460.2684		8967.1574		5.4		P
Antimony	14.8	5.6144	U	6.2862	U			P
Arsenic	0.0	9.1099		9.7413		6.7		F
Barium	49.2	119.3869		183.5153		42.3	*	P
Beryllium	1.2	0.0492	U	0.0551	U			P
Cadmium	1.2	0.4605	B	0.6975	B	40.9		P
Calcium		17558.6870		16387.3250		6.9		P
Chromium		61.9207		46.8790		27.7	*	P
Cobalt	12.3	9.2859	B	10.6176	B	13.4		P
Copper		150.3324		123.5346		19.6		P
Iron		34886.5720		33190.0130		5.0		P
Lead		129.0446		134.8966		4.4		P
Magnesium	1231.2	5306.2866		5117.9763		3.6		P
Manganese		1838.3600		1626.8018		12.2		P
Mercury	0.1	0.3436		0.2725		23.1		CV
Nickel	9.8	27.0968		25.8726		4.6		P
Potassium	1231.2	928.6580	B	931.5247	B	0.3		P
Selenium	1.5	0.5376	B	0.5430	B	1.0		F
Silver	2.5	0.6402	B	1.2490	B	64.5		P
Sodium	1231.2	239.0052	B	285.7458	B	17.8		P
Thallium	3.0	0.2987	B	0.2874	B	3.9		F
Vanadium	12.3	41.9872		37.6068		11.0		P
Zinc		274.3832		226.5619		15.1		P
Cyanide								C

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DUPLICATES

000 43

EPA SAMPLE NO.

MEBW18D

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEBW16

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: % Solids for Duplicate: 60.8

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic								NR
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead		129.0323		138.6139		7.2		F
Magnesium								NR
Manganese								NR
Mercury								NR
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Cyanide								NR

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DUPLICATES

000 44

EPA SAMPLE NO.

MERW24D

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MERW16

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 83.0 % Solids for Duplicate: 83.4

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								P
Antimony								P
Arsenic								F
Barium								P
Beryllium								P
Cadmium								P
Calcium								P
Chromium								P
Cobalt								P
Copper								P
Iron								P
Lead								F
Magnesium								P
Manganese								P
Mercury								CV
Nickel								P
Potassium								P
Selenium								F
Silver								P
Sodium								P
Thallium								F
Vanadium								P
Zinc								P
Cyanide	0.6	0.6048	U	0.6275	U			C

Lab Name: YORKLDRS/CT Contract: 68-WP-0017

Lab Code: YORK Case No.: 1111 SAS No.: SDG No.: MEPW10

ICP ID Number: Date: 01/30/89

Flame AA ID Number:

Furnace AA ID Number: 5100

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic	193.70	BZ	10.0	0.3	F
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead	283.30	BZ	5.0	0.2	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium	196.00	BZ	5.0	0.2	F
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:

INSTRUMENT DETECTION LIMITS (QUARTERLY)

000 52

Lab Name: YORKLABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MEEW16

ICP ID Number: JA61 Date: 01/20/89

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.21		200.0	27.4	P
Antimony	206.83		60.0	22.8	P
Arsenic	193.60		10.0	15.5	P
Barium	493.40		200.0	8.3	P
Beryllium	234.86		5.0	0.2	P
Cadmium	228.80		5.0	1.4	P
Calcium	317.93		5000.0	35.8	P
Chromium	267.71		10.0	2.1	P
Cobalt	228.61		50.0	5.0	P
Copper	324.75		25.0	3.4	P
Iron	271.44		100.0	61.1	P
Lead	220.35		5.0	15.7	P
Magnesium	279.07		5000.0	38.2	P
Manganese	257.61		15.0	0.8	P
Mercury			0.2		
Nickel	231.60		40.0	5.0	P
Potassium	766.49		5000.0	568.0	P
Selenium	196.02		5.0	32.7	P
Silver	328.06		10.0	2.0	P
Sodium	589.59		5000.0	202.4	P
Thallium			10.0		
Vanadium	292.40		50.0	5.2	P
Zinc	213.85		20.0	1.8	P

Comments:

Lab Name: YORKLABS/CT Contract: SB-WA-0117

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: WETWIN

ICP ID Number: Date: 01/15/89

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			5.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury	253.70		0.2	0.2	CV
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:

Lab Name: YORK LABS/CT Contract: 68-W8-0017

Lab Code: YORK Case No.: 11111 SAS No.: SDG No.: MERWIE

ICP ID Number: Date: 01/30/89

Flame AA ID Number:

Furnace AA ID Number: 3030

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead	283.30	BZ	5.0	0.3	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium	276.80	BZ	10.0	0.3	F
Vanadium			50.0		
Zinc			20.0		

Comments: