185630

PYRIDIUM MERCURY DISPOSAL SITE NO. 1
START FOUR
ADMINISTRATIVE RECORD FILE UPDATE
INDEX OF DOCUMENTS

1.0 FACTUAL INFORMATION/DATA

1.7 Sampling Data/Data Summary Sheets/Chain of Custody Forms

P. 100120-100218 Report: Pyridium Mercury Disposal Site #1, Data Validation Assessment, prepared by Mr. Adly A. Michael, Data Reviewer, and Mr. Patrick Austin, Project Manager, Superfund Technical Assessment and Response Team, Region II, Roy F. Weston, Inc., prepared for Ms. Irmee Huhn, OSC, Removal Action Branch, U.S. EPA, Region II, August 28,1998.

P. 100219-100243 Report: Final Report, Pyridium Mercury Disposal Site, Harriman, New York, prepared by Mr. Michael Chilek, REAC Task Leader, and Mr. Edward F. Gilardi, REAC Program Manager, Region II, Roy F. Weston, Inc., prepared for Mr. George Prince, Work Assignment Manager, U.S. EPA, ERTC, April 16, 1999.

P. 100244-100247 Report: Sampling Trip Report, Pyridium Mercury Disposal Site #1, prepared by Ms. Rana Salzhauer, Superfund Technical Assessment and Response Team, Region II, Roy F. Weston, Inc., prepared for U.S. EPA, Region II, January 31, 2001.

P. 100248-100299 Report: Revised Post Excavation Sampling Report, Pyridium Mercury Disposal Site #1,Harriman, Orange County, New York, prepared by Removal Support Team, Region II, Roy F. Weston, Inc., Federal Programs Division, prepared for U.S. EPA, Region II, Removal Action Branch, August 31, 2001. (Attached: 1. Report: Final Report, Pyridium Mercury Disposal Site, Harriman, New York, prepared by Mr. Michael Chilek, REAC Task Leader, and Mr. Edward F. Gilardi, REAC Program Manager, Region II, Roy F. Weston, Inc., prepared for Mr. George Prince, Work Assignment Manager, U.S. EPA, ERTC, April 16, 1999; 2. Memorandum to Ms. Irmee Huhn, OSC, Removal Action Branch, U.S. EPA, Region II, from Mr. Hanif Sheikh, Chemist, Hazardous Waste Support Section, U.S. EPA, Region II, re: Pyridium Mercury Disposal Site Data Salvage, October 23, 1998.)

CERTIFICATION OF DOCUMENTS

COMPRISING THE ADMINISTRATIVE RECORD

The United States Environmental Protection Agency(USEPA) hereby certifies that the attached documents constitute the Administrative Record for selection of response actions under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, for the **Pyridium Mercury Disposal #1**, located on the village of Harriman Tax Map as Section 103, Block 5, Lot 2, on Route 17M and **Pyridium Mercury Disposal #2** located on the Village of Harriman Tax Map as Section 106, Block 5, Lot 13 in the Town of Harriman, County of Orange, New York, CERCLIS ID # NY0000856237 and #NY0001062850; Spill Id 02EZ and 02EV, respectively.

By the EPA:

In witness whereof I have subscribed my

name this 30th day of _March, 2004,

in Edison, New Jersey.

Irmgard P. Huhn, USEPA Region II.

Roy F. Weston, Inc.
Federal Programs Division
Suite 201
1090 King Georges Post Road
Edison, New Jersey 08837-3703
908-225-6116 • Fax 908-225-7037

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019

START-02-F-03034

TRANSMITTAL MEMO

To: Irmee Huhn, OSC
Removal Action Branch, U.S. EPA Region II

From: Adly A. Michael, Data Reviewer
Patrick Austin, PM
START Region II

Subject: Pyridium Mercury Disposal Site #1
Data Validation Assessment

Date: 28 August 1998

The purpose of this memo is to transmit the following information:

- Data validation results for the following parameters:

  TAL (Mercury) 57 samples

- Matrices and Number of Samples

  Soil 57 samples

- Sampling date: March 13 thru July 24, 1998

The final data assessment narrative and original analytical data package are attached.

cc: START PM : Patrick Austin
START FILE TDD # : 02-98-04-0018
Analytical TDD # : 02-98-05-0004
PCS # : 2582

100120

U.S. ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

DATE: August 27, 1998

TO: Irmee Huhn, OSC
USEPA Region II

FROM: Adly A. Michael
START Data Review Team

SUBJECT: QA/QC Compliance Review Summary

As requested quality control and performance measures for the data packages noted have been examined and compared to EPA standards for compliance. Measures for the following general areas were evaluated as applicable:

Data Completeness	Blanks
Matrix Spikes/Duplicates	Holding Times
Calibration	Calibration Check Standards

Any statistical measures used to support the following conclusions are attached so that the review may be reviewed by others.

Summary of Results

	I Metals Cyanide	II TCLP Metals	III RCRA Parameters	IV TOC	V TPH & NH3
Acceptable as Submitted					
Acceptable with Comments	X				
Unacceptable, Action Pending					
Unacceptable					

Data Reviewed by: Adly Michael Date: 8/25/98

Approved By: JM Sorb Date: 8/27/98

Area Code/Phone No.: (908) 225-6116

100121

NARRATIVE

CASE No. 2582

SITE NAME: Pyridium Mercury Disposal Site #1

Harriman, New York.

Laboratory Name: Adirondack Environmental Services, Albany, New York.

INTRODUCTION:

The laboratory's portion of this Case consisted of 57 soil samples collected during the period of March 13 thru July 24, 1998.

The laboratory reported No problem(s) with the receipt of these samples.

The laboratory reported No problems with the analyses of Total Metals .

The evaluator has commented on the criteria specified under each fraction heading. All criteria have been assessed, but no discussion is given where the evaluator has determined that criteria were adequately performed or require no comment. Details relevant to these comments are given on the following forms.

IV. Inorganic :

_Y_ Data Summary/Tabulated Results
_Y_ Initial and Continuing Calibration
_Y_ Blanks
___ ICP Interference Check
_Y_ Spike Sample Recovery
_Y_ Duplicates
_Y_ Detection Limits
___ Standard Addition Results
___ ICP Serial Dilutions
_Y_ Holding Times
___ ICP Interelement Correction Factors
___ ICP Linear Ranges
_Y_ Chain of Custody
_Y_ Raw Data
_Y_ Quantitation, Conversions, Dilutions, etc.

Comments:

1. Refer to Data Assessment Narrative.

Title: Evaluation of Inorganic Data for the Contract laboratory Program
Appendix A.2: Data Assessment Narrative

Date: Jan. 1992
Number: HW-2
Revision: 11

RFP #: 2582

Site: PyridiumMercury Disposal Site

Matrix:

SDG#: See page 2

Lab: Adirondack Environmental Services

Solid : 57

Water:

Contractor: WESTON-START

Reviewer: ADLY A. MICHAEL

A.2.1 Validation Flags- The following flags have been applied in red by the data validator and must be considered by the data user.

J- This flag indicates the result qualified as estimated.

Red- Line- A red-line drawn through a sample result indicates an unusable value. The red-lined data are known to contain significant errors based on documented information and must not be used by the data user.

Fully Usable Data- The results that do not carry "J" or "red-line" are fully usable.

Contractual Qualifiers- The legend of contractual qualifiers applied by the laboratory on Form I's is found on page B-20 of SOW ILM01.0.

A.2.2 The data assessment is given below and on the attached sheets.

During the period of April 28 thru July 24, 1998, USEPA Region II START personnel collected 42 post excavation and 11 pre-excavation soil samples at Pyridium Mercury Disposal site, Harriman, Orange County, New York.

The above samples were analyzed for Total Mercury. The target analyte inorganic analysis was performed following the Contract Laboratory Program (CLP) Statement of Work (SOW) number ILM04.0.

Client identification (ID) and laboratory ID numbers: Total Metals

SDG #	Client ID No.	Laboratory ID No.	Matrix
PX-1	PX-1	PX-1	Soil
	PX-2	PX-2	Soil
	PX-3	PX-3	Soil
	PX-4	PX-4	Soil
	PX-5	PX-5	Soil
	PX-6	PX-6	Soil
PX-7	PX-7	PX-7	Soil
	PX-8	PX-8	Soil
	PX-9	PX-9	Soil
	RD-1	RD-1	Soil
PX-10	PX-10	PX-10	Soil
	PX-11	PX-11	Soil
	PX-12	PX-12	Soil
	PX-13	PX-13	Soil
	PX-14	PX-14	Soil
	SED-1	SED-1	Soil
PX-15	PX-15	PX-15	Soil
	PX-16	PX-16	Soil
	PX-17	PX-17	Soil
	PX-18	PX-18	Soil
	PX-19	PX-19	Soil
	SCR-1	SCR-1	Soil
PX-20	PX-20	PX-20	Soil
	PX-21	PX-21	Soil
	PX-22	PX-22	Soil
	PX-23	PX-23	Soil
	PX-24	PX-24	Soil
	PX-25	PX-25	Soil
	PX-26	PX-26	Soil
	PX-27	PX-27	Soil
	PX-28	PX-28	Soil
	PX-29	PX-29	Soil
	PX-30	PX-30	Soil
	PX-31	PX-31	Soil
	PX-32	PX-32	Soil

SDG #	Client ID No.	Laboratory ID No.	Matrix
PX-20	SCR-2	SCR-2	Soil
	SCR-3	SCR-3	Soil
PX-33	PX-33	PX-33	Soil
	PX-33A	PX-33A	Soil
	PX-34	PX-34	Soil
	PX-35	PX-35	Soil
	PX-36	PX-36	Soil
	PX-37	PX-37	Soil
	PX-38	PX-38	Soil
	PX-39	PX-39	Soil
	PX-40	PX-40	Soil
	PX-41	PX-41	Soil
	PX-42	PX-42	Soil
	PX-43	PX-43	Soil
	PX-44	PX-44	Soil
	PX-45	PX-45	Soil
PX-46	PX-46	PX-46	Soil
PX-49	PX-49	PX-49	Soil
	PX-50	PX-50	Soil
	SED-2	SED-2	Soil
	SED-3	SED-3	Soil
	SED-4	SED-4	Soil

Sample PX-2 is a field duplicate of sample PX-1.
Sample PX-30 is a field duplicate of sample PX-29.
Sample PX-40 is a field duplicate of sample PX-39.

MATRIX SPIKE RECOVERY:-

The following analytes were either qualified as estimated "J" or rejected "red-lined" in the associated samples due to spike recoveries (% R) outside of specified QC limits in the associated spike samples and because the sample result (SR) concentration < 4 X the spike added (SA) concentration:

Analyte	SDG #	QC Limit	%Recovery	Qualifier	Associated Samples
Mercury	PX-1	>200%	282.2%	R	PX-1, PX-2, PX-3, PX-4, PX-5, PX-6
Mercury	PX-33	>200%	447.3%	R	Px-33, PX-33A, PX-34, PX-35, PX-36, PX-37, PX-38, PX-39, PX-40, PX-41, PX-42, PX-43, PX-44, PX-45

FIELD DUPLICATE ANALYSIS

The following analytes were either qualified as estimated "J" or rejected "Red-lined" in the associated samples because the Relative Percent Difference (RPD) or Difference (Diff.) between results of sample MP_002 Bot. and it's duplicate were outside the QC Limits.

Analyte	RPD / DIFF.	QC Limit	Qualifier	Associated Samples
Mercury	109.6% (RPD)	100 % (RPD)	J	PX-39*, PX-40*

* Samples were previously qualified.

PERCENT SOLID CRITERIA

The following analytes were qualified as estimated "J" due to the percent solid of their respective samples.

Analyte	% Solid	QC Limit	Qualifier	Associated Sample
Mercury	49.0%	< 50%	J	PX-8
	40.5%	< 50%	J	PX-22
	39.8%	< 50%	J	PX-25
	37.6%	< 50%	J	PX-49
	32.2%	< 50%	J	SCR-2
	23.9%	< 50%	J	SCR-3

PERCENT SOLID CRITERIA (Cont'd.)

Analyte	% Solid	QC Limit	Qualifier	Associated Sample
Mercury	34.0%	< 50%	J	SED-2
	46.0%	< 50%	J	SED-3

A.2.3 Contract Problem/Non-Compliance:

Sample PX-16 is flagged with "J" as estimated value due to the fact that, the sample's result was outside the quantitation range (i.e. calibration range). The sample should have been diluted and re-analyzed. The reanalysis was not performed.

MMB/ESAT Reviewer : _____ Signature _____ Date:

Contractor Reviewer : Adly Michael Signature 8/27/98 Date:

Verified by : _____ Signature _____ Date:

OTHER ANALYTES WORK TABLE

Project: Pyridium Mercury Disposal Site #1 START PM: Patrick Austin

Sampling Date: 3/13 THRU 7/24/95 SAMPLE CONCENTRATION: mg/Kg

Sample ID	SDG #	Method Detection Limit	Results
PX-1	PX-8	0.1	R
PX-2	PX-8	0.1	R
PX-3	PX-8	0.1	R
PX-4	PX-8	0.1	R
PX-5	PX-8	0.1	R
PX-6	PX-8	0.1	R
PX-7	PX-7	0.1	57.3
PX-8	PX-7	0.1	2.4 J
PX-9	PX-7	0.1	2.6
RD-1	PX-7	0.1	0.05 B
PX-10	PX-10	0.1	3.8
PX-11	PX-10	0.1	1.0
PX-12	PX-10	0.1	2.9
PX-13	PX-10	0.1	U
PX-14	PX-10	0.1	14.7
SED-1	PX-10	0.1	0.98
PX-15	PX-15	0.1	10.7 B
PX-16	PX-15	0.1	5.1 J
PX-17	PX-15	0.1	0.69
PX-18	PX-15	0.1	16.8
PX-19	PX-15	0.1	1.4
SCR-1	PX-15	0.1	38.4
PX-20	PX-20	0.1	0.74
PX-21	PX-20	0.1	1.4
PX-22	PX-20	0.1	26.9 J
PX-23	PX-20	0.1	24.8
PX-24	PX-20	0.1	0.24
PX-25	PX-20	0.1	1.1 J
PX-26	PX-20	0.1	9.9
PX-27	PX-20	0.1	15.9
PX-28	PX-20	0.1	8.2
PX-29	PX-20	0.1	0.19
PX-30	PX-20	0.1	0.25

Inorganic Qualifiers

U - non-detected compound
J - estimated value
B - between the instrument detection limit (IDL) and the method detection limit (MDL)
R - rejected compound

OTHER ANALYTES WORK TABLE

Project: Pyridium Mercury Disposal Site #1 START PM: Patrick Austin

Sampling Date: 3/13 THRU 7/24/95 SAMPLE CONCENTRATION: mg/Kg

Sample ID	SDG #	Method Detection Limit	Results
PX-31	PX-20	0.1	0.71
PX-32	PX-20	0.1	419
SCR-2	PX-20	0.1	5.9 J
SCR-3	PX-20	0.1	5.4 J
PX-33	PX-33	0.1	R
PX-33A	PX-33	0.1	R
PX-34	PX-33	0.1	R
PX-35	PX-33	0.1	R
PX-36	PX-33	0.1	R
PX-37	PX-33	0.1	R
PX-38	PX-33	0.1	R
PX-39	PX-33	0.1	R
PX-40	PX-33	0.1	R
PX-41	PX-33	0.1	R
PX-42	PX-33	0.1	R
PX-43	PX-33	0.1	R
PX-44	PX-33	0.1	R
PX-45	PX-33	0.1	R
PX-46	PX-46	0.1	7.1
PX-49	PX-49	0.1	12.8 J
PX-50	PX-49	0.1	2.9
SED-2	PX-49	0.1	8.7 J
SED-3	PX-49	0.1	6.0 J
SED-4	PX-49	0.1	2.4

Inorganic Qualifiers

U - non-detected compound
J - estimated value
B - between the instrument detection limit (IDL) and the method detection limit (MDL)
R - rejected compound

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW98 SAS No.: _____ SDG No.:PX-1__

No.: ILM02.1

EPA Sample No.	Lab Sample ID
_PX-1_____	_PX-1_____
_PX-2_____	_PX-2_____
_PX-3_____	_PX-3_____
_PX-4_____	_PX-4_____
_PX-4_D_____	_PX-4_D_____
_PX-4_S_____	_PX-4_S_____
_PX-5_____	_PX-5_____
_PX-6_____	_PX-6_____

e ICP interelement corrections applied ? Yes/No YES

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

ments:

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

gnature: Sheryl L. Martucci Name: Sheryl L. Martucci

e: 5/18/98 Title: Inorganics Manager

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-1

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-1__

rix (soil/water): SOIL_ Lab Sample ID: PX-1_____

el (low/med): LOW__ Date Received: 05/08/98

olids: _82.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~5.6~~		~~K N*~~	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron___				NR

or Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

or After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

ments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-2

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-1__

rix (soil/water): SOIL_ Lab Sample ID: PX-2_____

el (low/med): LOW__ Date Received: 05/08/98

olids: _83.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~6.4~~		~~R N*~~	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

or Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

or After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

ments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-3

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-1__

rix (soil/water): SOIL_ Lab Sample ID: PX-3_____

el (low/med): LOW__ Date Received: 05/08/98

olids: _67.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	2.3		R N*	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

lor After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

nments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-4

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-1__

ix (soil/water): SOIL_ Lab Sample ID: PX-4_____

el (low/med): LOW__ Date Received: 05/08/98

olids: _81.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~0.84~~		R N*	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

or Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

or After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

ments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-5

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-1__

ix (soil/water): SOIL_ Lab Sample ID: PX-5_____

el (low/med): LOW__ Date Received: 05/08/98

olids: _89.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~0.65~~		~~R N*~~	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

or Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

or After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

ments:

FORM I - IN ILM03.0

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-6

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-1__

rix (soil/water): SOIL_ Lab Sample ID: PX-6_____

el (low/med): LOW__ Date Received: 05/08/98

olids: _82.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~6.9~~		~~R N*~~	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

.or Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

.or After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

ments:

FORM I - IN ILM03.0

RFP No.: 2582

P[illegible]: 92776

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER 98C504	
Px-1	5-6-98-15:20	5	L/m	G	6										Total Mercury	A02
Px-2	5/6/98 15:15	5	L/m	G	6										Total mercury	A03
Px-3	5/6/98 15:30	5	L/m	G	6										Total mercury	A02
Px-4	5/6/98 15:40	5	L/m	G	6										Total mercury	A04
Px-5	5/7/98 09:20	5	L/m	G	6										Total mercury	A05
Px-6	5/7/98 09:30	5	L/m	G	6										Total mercury	A06

Comments:
Extra volume was given for MS/MSD for Sample # Px-4

Person Assuming Responsibility for Sample:	Time Date (MM/DD/YY)
Bruce Lakwood	16:55 5/6/98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
ALL	Bruce Lakwood	16:55	5/6/98	Corporate Express 5/7/98	Shipment to Lab
ALL	Corporate Express	7:45	5/8/98	[illegible]	Arrival @ Lab.

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
[illegible]ssociation with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental [illegible]nagement, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW98 SAS No.: _____ SDG No.:PX-7__

No.: ILM02.1

EPA Sample No.	Lab Sample ID
_PX-7_____	_PX-7_____
_PX-7_D_____	_PX-7_D_____
_PX-7_S_____	_PX-7_S_____
_PX-8_____	_PX-8_____
_PX-9_____	_PX-9_____
_RD-1_____	_RD-1_____

·e ICP interelement corrections applied ? Yes/No YES

·e ICP background corrections applied ? Yes/No YES

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

nments:

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

gnature: Sheryl L. Martucci Name: Sheryl L. Martucci

te: 6/8/98 Title: Inorganic Chem. Manager

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-7

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-7__

rix (soil/water): SOIL_ Lab Sample ID: PX-7_____

el (low/med): LOW__ Date Received: 05/20/98

olids: _74.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	57.3			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
7440-66-7	Boron____				NR

lor Before: BROWN_____ Clarity Before: _____ Texture: MEDIUM

lor After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

nments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-8

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-7__

rix (soil/water): SOIL_ Lab Sample ID: PX-8_____

el (low/med): LOW__ Date Received: 05/26/98

olids: _49.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	2.4		J	AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
7440-66-7	Boron____				NR

lor Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

lor After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

mments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-9

) Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

) Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-7__

:rix (soil/water): SOIL_ Lab Sample ID: PX-9_____

vel (low/med): LOW__ Date Received: 05/26/98

Solids: 73.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	2.6			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

lor After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

mments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

RD-1

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-7__

rix (soil/water): SOIL_ Lab Sample ID: RD-1_____

el (low/med): LOW__ Date Received: 05/26/98

olids: _96.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.05	B		AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

lor After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

mments:

FORM I - IN ILM03.0

RFP No.: 2582

PO No.: 92776

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
Px - 7	05/18/98/1630	5	L	G	6										Total Mercury
980520 C01															
	Cooler temp 4 °C														
	Custody Seal Intact														
	MSK 5/20/98 →	740 AM													

Comments: CLP / 1 day verbal / 2 weeks written

Person Assuming Responsibility for Sample: Patrick Austin

Time Date (MM/DD/YY)

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
Px 7	Pat Austin	1600	5/18/98	Bev Turman	
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
		AM 7:36	5/20/98	M. L	

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

RFP No.: 2582

P[illegible] No.: 92376

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
PX 8	05/20/98/1500	5	L/M	G	6										TOTAL MERCURY
PX 9	05/22/98/1130	5	L/M	G	6										TOTAL MERCURY
R-D 1	05-22-98-0900	5	L/M	G	6										TOTAL MERCURY

Comments:

Person Assuming Responsibility for Sample: Patrick Austin

Time Date (MM/DD/YY): 1200 05/22/98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
ALL	Patrick Austin	1220	5/22	[illegible]	
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
		8:00	5/26/98	[illegible]	Arrival @ Lab

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Name: ADIRONDACK_ENVIRONMENTAL Contract: _____

Code: AES___ Case No.: RFW98 SAS No.: _____ SDG No.:PX-10_

No.: ILM02.1

EPA Sample No.	Lab Sample ID
_PX-10_____	_PX-10_____
_PX-11_____	_PX-11_____
_PX-12_____	_PX-12_____
_PX-13_____	_PX-13_____
_PX-14_____	_PX-14_____
_SED-1_____	_SED-1_____
_SED-1_D_____	_SED-1_D_____
_SED-1_S_____	_SED-1_S_____

e ICP interelement corrections applied ? Yes/No YES

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

nents:

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

natur: Sheryl Muetrie Name: Sheryl Muetrie

e: 6/12/98 Title: Inorganics Manager

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100147

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-10

Name: ADIRONDACK ENVIRONMENTAL Contract: _____

Code: AES Case No.: RFW980 SAS No.: _____ SDG No.: PX-10

-ix (soil/water): SOIL Lab Sample ID: PX-10

el (low/med): LOW Date Received: 05/28/98

olids: 79.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	3.8			AV
7440-02-0	Nickel				NR
7440-09-7	Sodium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
7440-66-7	Boron				NR

or Before: BROWN Clarity Before: _____ Texture: MEDIUM

or After: YELLOW Clarity After: CLEAR Artifacts: _____

ments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-11

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-10_

ix (soil/water): SOIL_ Lab Sample ID: PX-11_____

el (low/med): LOW__ Date Received: 05/28/98

olids: _81.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	1.0			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron___				NR

or Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

or After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

ments:

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U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-12

Name: ADIRONDACK ENVIRONMENTAL Contract:

Code: AES Case No.: RFW980 SAS No.: SDG No.: PX-10

ix (soil/water): SOIL Lab Sample ID: PX-12

l (low/med): LOW Date Received: 05/28/98

lids: 78.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	2.9			AV
7440-02-0	Nickel				NR
7440-09-7	Sodium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
7440-66-7	Boron				NR

or Before: BROWN Clarity Before: Texture: MEDIUM

or After: YELLOW Clarity After: CLEAR Artifacts:

ments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-13

Name: ADIRONDACK ENVIRONMENTAL Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-10_

rix (soil/water): SOIL_ Lab Sample ID: PX-13_____

el (low/med): LOW _ Date Received: 05/28/98

olids: _90.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.04	U		AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

or Before: BLACK __ Clarity Before: _____ Texture: MEDIUM

or After: YELLOW___ Clarity After: CLEAR__ Artifacts: _____

ments:

FORM I - IN ILM03.0

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-14

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-10_

rix (soil/water): SOIL_ Lab Sample ID: PX-14

el (low/med): LOW__ Date Received: 05/28/98

olids: _70.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	14.7			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

or Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

or After: YELLOW____ Clarity After: CLEAR_ Artifacts: _____

ments:

FORM I - IN ILM03.0

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SED-1

Name: ADIRONDACK ENVIRONMENTAL Contract: _____

Code: AES Case No.: RFW980 SAS No.: _____ SDG No.: PX-10

ix (soil/water): SOIL Lab Sample ID: SED-1

el (low/med): LOW Date Received: 05/28/98

olids: 73.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.98			AV
7440-02-0	Nickel				NR
7440-09-7	Sodium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
7440-66-7	Boron				NR

or Before: BROWN Clarity Before: _____ Texture: MEDIUM

or After: YELLOW Clarity After: CLEAR Artifacts: _____

ments:

FORM I - IN ILMO3.0

RFP No.: 2582

P[illegible]o.: 92776

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
Rx-10	05-27-98-1130	5	L/L	G	6										TOTAL MERCURY
Rx-11	5-27-98-1420	5	L/M	G	6										TOTAL MERCURY
Rx-12	5-27-98-1430	5	L/M	G	6										TOTAL MERCURY
SED-1	05/27/98-1445	5	L/M	G	6										TOTAL MERCURY

Comments:
ENVIRONMENTAL SAMPLES

Person Assuming Responsibility for Sample: Patrick A. Austin

Time Date (MM/DD/YY): 1200 5/27/98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
ALL	Patrick Austin	3:28	5-27-98	Bu Furman	ANALYSIS
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
		8:26	5/28		Arrival @ Lab

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

RFP No.: 2582

P[redacted]o.: 92776

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
PX-13	05/29/98/0830	5	L	G	6										TOTAL MERCURY
PX-14	05/29/98/1520	5	L	G	6										TOTAL MERCURY
980601 B															

Comments: SAMPLES - PX-13 PX-14 for Total Mercury Analysis

Person Assuming Responsibility for Sample: PATRICK A. AUSTIN

Time Date (MM/DD/YY): 1530 05/29/98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
ALL	P. AUSTIN	1600	5/29	[illegible]	SHIP OFF TO LAB

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

M. [illegible] 6/1/98 8:08 Am

100155

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

ɔ Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

ɔ Code: AES Case No.: RFW98 SAS No.: _____ SDG No.:PX-15_

J No.: ILM02.1

EPA Sample No.	Lab Sample ID
_PX-15_____	_PX-15_____
_PX-16_____	_PX-16_____
_PX-17_____	_PX-17_____
_PX-17_D_____	_PX-17_D_____
_PX-17_S_____	_PX-17_S_____
_PX-18_____	_PX-18_____
_PX-19_____	_PX-19_____
_SCR-1_____	_SCR-1_____

re ICP interelement corrections applied ? Yes/No YES

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

mments:

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

gnature: Sheryl Martucci Name: Sheryl Martucci

te: 6/25/98 Title: Inorganics

COVER PAGE - IN ILM03.0

100156

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-15

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-15_

rix (soil/water): SOIL_ Lab Sample ID: PX-15_____

el (low/med): LOW__ Date Received: 06/08/98

olids: _81.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	10.7	B		AV
7440-02-0	Nickel				NR
7440-09-7	Sodium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
7440-66-7	Boron				NR

lor Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

lor After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

mments:

FORM I - IN ILM03.0

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-16

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-15_

rix (soil/water): SOIL_ Lab Sample ID: PX-16_____

el (low/med): LOW__ Date Received: 06/10/98

olids: _62.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	5.1		J	AV
7440-02-0	Nickel				NR
7440-09-7	Sodium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
7440-66-7	Boron				NR

lor Before: BROWN_____ Clarity Before: _____ Texture: MEDIUM

lor After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

mments:

FORM I - IN ILM03.0

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-17

Name: ADIRONDACK_ENVIRONMENTAL Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-15_

rix (soil/water): SOIL_ Lab Sample ID: PX-17_____

el (low/med): LOW__ Date Received: 06/10/98

olids: _58.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.69			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron___				NR

lor Before: BROWN_____ Clarity Before: _____ Texture: MEDIUM

lor After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

mments:

FORM I - IN ILMO3.0

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-18

Name: ADIRONDACK ENVIRONMENTAL Contract:

Code: AES Case No.: RFW980 SAS No.: SDG No.: PX-15

rix (soil/water): SOIL Lab Sample ID: PX-18

el (low/med): LOW Date Received: 06/12/98

olids: 79.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	16.8			AV
7440-02-0	Nickel				NR
7440-09-7	Sodium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
7440-66-7	Boron				NR

lor Before: BROWN Clarity Before: Texture: MEDIUM

lor After: YELLOW Clarity After: CLEAR Artifacts:

nments:

FORM I - IN ILM03.0

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-19

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW980 SAS No.: _____ SDG No.: PX-15_

ix (soil/water): SOIL_ Lab Sample ID: PX-19_____

el (low/med): LOW__ Date Received: 06/12/98

olids: 89.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	1.4			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

or Before: BROWN_____ Clarity Before: _____ Texture: MEDIUM

or After: YELLOW__ Clarity After: CLEAR__ Artifacts: _____

ments:

FORM I - IN ILM03.0

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SCR-1

) Name: ADIRONDACK ENVIRONMENTAL Contract: _____

) Code: AES Case No.: RFW980 SAS No.: _____ SDG No.: PX-15

:rix (soil/water): SOIL Lab Sample ID: SCR-1

/el (low/med): LOW Date Received: 06/12/98

;olids: 59.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	38.4			AV
7440-02-0	Nickel				NR
7440-09-7	Sodium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
7440-66-7	Boron				NR

lor Before: BROWN Clarity Before: _____ Texture: MEDIUM

lor After: YELLOW Clarity After: CLEAR Artifacts: _____

mments:

FORM I - IN ILM03.0

RFP No.: 2583

[redacted]o.: 92776

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
PX-15	06-05-98-1100	5	L/M	G	6										TOTAL MERCURY
980608 C01															

Comments: 24 hr TURN AROUND.
SAMPLE PX-15 SUBMITTED FOR TOTAL MERCURY ANALYSIS

Person Assuming Responsibility for Sample: PATRICK A. AUSTIN

Time Date (MM/DD/YY): 1100 06/05/98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
PX-15	PATRICK AUSTIN	4:00	6-5	[illegible]	Delivery to lab.
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
		6/8/98	8:00 Am	M. [illegible]	

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

RFP No.: 2582

ID No.: 92776

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
Px-16	6/8/98/1600	5	L/M	G	6										TOTAL MERCURY
Px-17	6/9/98/1600	5	L/M	G	6										TOTAL MERCURY
	980610 A														

Comments: TURN AROUND ~~Form~~ (PA)
TOTAL MERCURY ANALYSIS FOR SAMPLES Px-16 + Px-17 24hr

Person Assuming Responsibility for Sample: Time Date (MM/DD/YY)
Pat Austin

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
All	[signature]	1610	06/09	Bev Furman	
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
		800 am	6/10/98	M. L[illegible]	

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

100164

RFP No.: 2582

I[illegible]o.:

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER 980612-
Px-18	6/10/98/1600	5	L/M	G	6										TOTAL MERCURY CO
SCR-1		5	L/M	G	6										TOTAL MERCURY CO
Px-19	6/10/98/1230	5	L/M	G	6										TOTAL MERCURY CO

Comments: 24 hour Turn Around
SAMPLES Px-18, Px-19 and SCR-1 have been Submitted for Total Mercury Analysis

Person Assuming Responsibility for Sample: [signature] Time Date (MM/DD/YY)

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
ALL	[signature]	1600	6/11	[signature]	
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
	[signature]	8:00	6/12/98	[signature]	Arrive @ Lab
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW98 SAS No.: _____ SDG No.:PX-20_

No.: ILM02.1

EPA Sample No.	Lab Sample ID
_PX-20_____	_PX-20_____
_PX-21_____	_PX-21_____
_PX-22_____	_PX-22_____
_PX-23_____	_PX-23_____
_PX-24_____	_PX-24_____
_PX-25_____	_PX-25_____
_PX-26_____	_PX-26_____
_PX-27_____	_PX-27_____
_PX-28_____	_PX-28_____
_PX-29_____	_PX-29_____
_PX-29_D_____	_PX-29_D_____
_PX-29_S_____	_PX-29_S_____
_PX-30_____	_PX-30_____
_PX-31_____	_PX-31_____
_PX-32_____	_PX-32_____
_SCR-2_____	_SCR-2_____
_SCR-3_____	_SCR-3_____
_____	_____
_____	_____
_____	_____

e ICP interelement corrections applied ? Yes/No YES

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

ments:

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

nature: Sheryl L. Martinez Name: Sheryl L. Martinez

e: 7/9/96 Title: Inorganics Manager

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-20

) Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

) Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

:rix (soil/water): SOIL_ Lab Sample ID: PX-20_____

/el (low/med): LOW__ Date Received: 06/18/98

Solids: _76.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.74			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron___				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

nments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-21

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

rix (soil/water): SOIL_ Lab Sample ID: PX-21_____

el (low/med): LOW__ Date Received: 06/20/98

olids: _86.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	1.4			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

nments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-22

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

rix (soil/water): SOIL_ Lab Sample ID: PX-22_____

el (low/med): LOW__ Date Received: 06/20/98

olids: _40.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	26.9		J	AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

.or Before: _____ Clarity Before: _____ Texture: _____

.or After: _____ Clarity After: _____ Artifacts: _____

ıments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-23

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

rix (soil/water): SOIL_ Lab Sample ID: PX-23_____

el (low/med): LOW__ Date Received: 06/20/98

olids: _71.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	24.8			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

nments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-24

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

trix (soil/water): SOIL_ Lab Sample ID: PX-24_____

l (low/med): LOW__ Date Received: 06/25/98

Solids: _94.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.24			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron___				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

mments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-25

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

rix (soil/water): SOIL_ Lab Sample ID: PX-25_____

el (low/med): LOW__ Date Received: 06/25/98

olids: _39.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	1.1		J	AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

nments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-26

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

rix (soil/water): SOIL_ Lab Sample ID: PX-26_____

el (low/med): LOW__ Date Received: 06/25/98

olids: _54.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	9.9			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-27

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

rix (soil/water): SOIL_ Lab Sample ID: PX-27_____

el (low/med): LOW__ Date Received: 06/25/98

olids: _85.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	15.9			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron___				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-28

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

rix (soil/water): SOIL_ Lab Sample ID: PX-28_____

el (low/med): LOW__ Date Received: 06/25/98

olids: _85.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	8.2			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

mments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-29

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

(soil/water): SOIL_ Lab Sample ID: PX-29_____

el (low/med): LOW__ Date Received: 06/25/98

olids: _94.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.19			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron___				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

mments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-30

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

rix (soil/water): SOIL_ Lab Sample ID: PX-30_____

el (low/med): LOW__ Date Received: 06/25/98

olids: _94.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.25			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron___				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

mments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-31

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

rix (soil/water): SOIL_ Lab Sample ID: PX-31_____

el (low/med): LOW__ Date Received: 06/25/98

olids: _83.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.71			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

nments:

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-32

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

rix (soil/water): SOIL_ Lab Sample ID: PX-32_____

el (low/med): LOW__ Date Received: 06/25/98

olids: _70.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	419_			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron___				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

nments:

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SCR-2

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

rix (soil/water): SOIL_ Lab Sample ID: SCR-2_____

el (low/med): LOW__ Date Received: 06/18/98

olids: _32.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	5.9		J	AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

mments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SCR-3

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-20_

rix (soil/water): SOIL_ Lab Sample ID: SCR-3_____

el (low/med): LOW__ Date Received: 06/20/98

olids: _23.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	5.4		J	AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

mments:

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RFP No.: 2528

No.:

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
1 Px-20	6-16-98-1830	5	L/M	G	6										TOTAL MERCURY
2 SCR-2	6-16-98-1845	5	L/M	G	6										TOTAL MERCURY
980618 E															

Comments:
TOTAL MERCURY Analysis for Px-20 & SCR-2, 24hr TURN AROUND REQUESTED

Person Assuming Responsibility for Sample: Patricia A. Austin

Time Date (MM/DD/YY): 1845 06-17-98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
ALL	[signature]	1630	6.17	[signature]	TO DELIVER TO LAB.

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
		6/18/98	8:00 AM	M. L	

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

RFP No: 2582

No.:

CHAIN OF CUSTODY RECORD

SAT

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.	Preservative Box No.
1. Surface Water	1. HCl
2. Ground Water	2. HNO3
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sunbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	AL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
Px-21	6-19-98-1405	5	L/M	G	6		D01								TOTAL MERCURY
Px-22	6-19-98-1410	5	L/M	G	6		D02								TOTAL MERCURY
Px-23	6-19-98-1415	5	L/M	G	6		D03								TOTAL MERCURY
SCR-3	6-19-98-1530	5	L/M	G	6		D04								TOTAL MERCURY
	980620 D														

Comments: All SAMPLES TO BE ANALYZED for TOTAL MERCURY, 24 hour Turn Around REQUESTED

Person Assuming Responsibility for Sample: PATRICK A. AUSTIN

Time Date (MM/DD/YY): 1600 06-19-98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
All		1600	6-19		DELIVERY TO LAB

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
		715 AM	6/22/98		

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and CRB Environmental Services, Inc.

100183

RFP No.: 2582

No.:

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
PX-24	06-24-98 0900	5	L/M	G	6	980625				D01					TOTAL MERCURY
PX-25	06-24-98 0910	5	L/M	G	6					D02					TOTAL MERCURY
PX-26	06-24-98 0920	5	L/M	G	6					D03					TOTAL MERCURY
PX-27	06-24-98 1100	5	L/M	G	6					D04					TOTAL MERCURY
PX-28	06-24-98 1105	5	L/M	G	6					D05					TOTAL MERCURY

Comments:
TOTAL MERCURY ANALYSIS FOR EA. SAMPLE, 12-24 hour TURN AROUND REQUESTED

Person Assuming Responsibility for Sample: PATRICK A AUSTIN

Time Date (MM/DD/YY)

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
All		1600	6-24	US. DELIVERY, INC	DELIVERY TO LAB

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

RFP No.: 2582

No.:

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
1 Rx-29	06-24-98 1530	5	L/M	G	6	980625					C01				TOTAL MERCURY
Rx-29 MS/MSD 1	1532	5	L/M	G	6										
Rx-30	1535	5	L/M	G	6						C02				
Rx-31	1540	5	L/M	G	6						C03				
Rx32	1545	5	H	G	6						C04				

Comments:
TOTAL MERCURY ANALYSIS, 12-24 TURN AROUND REQUESTED RA

Person Assuming Responsibility for Sample: Patricia A Austin

Time Date (MM/DD/YY): 1600 6/24/98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
All		1600	6/24	U.S. DELIVERY	DELIVERY TO LAB

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

100185

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

me: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW98 SAS No.: _____ SDG No.:PX-33_

No.: ILM02.1

EPA Sample No.	Lab Sample ID
_PX-33_____	_PX-33_____
_PX-33_D_____	_PX-33_D_____
_PX-33_S_____	_PX-33_S_____
_PX-33A_____	_PX-33A_____
_PX-34_____	_PX-34_____
_PX-35_____	_PX-35_____
_PX-36_____	_PX-36_____
_PX-37_____	_PX-37_____
_PX-38_____	_PX-38_____
_PX-39_____	_PX-39_____
_PX-40_____	_PX-40_____
_PX-40_D_____	_PX-40_D_____
_PX-40_S_____	_PX-40_S_____
_PX-41_____	_PX-41_____
_PX-42_____	_PX-42_____
_PX-43_____	_PX-43_____
_PX-44_____	_PX-44_____
_PX-45_____	_PX-45_____
_____	_____
_____	_____

e ICP interelement corrections applied ? Yes/No YES

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

ments:

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

gnature: Sheryl L. Martinez Name: Sheryl L. Martinez

e: 7-15-98 Title: Inorganics Manager

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-33

Name: ADIRONDACK ENVIRONMENTAL Contract:

Code: AES Case No.: RFW981 SAS No.: SDG No.: PX-33

rix (soil/water): SOIL Lab Sample ID: PX-33

el (low/med): LOW Date Received: 06/27/98

olids: 35.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~4.2~~		~~R N~~	~~AV~~
7440-02-0	Nickel				NR
7440-09-7	Sodium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
7440-66-7	Boron				NR

or Before: Clarity Before: Texture:

or After: Clarity After: Artifacts:

ments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-33A

Name: ADIRONDACK_ENVIRONMENTAL Contract: _____

Code: AES Case No.: RFW981 SAS No.: _____ SDG No.: PX-33

ix (soil/water): SOIL Lab Sample ID: PX-33A

el (low/med): LOW Date Received: 06/27/98

olids: 48.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~232~~		~~R N~~	~~AV~~
7440-02-0	Nickel				NR
7440-09-7	Sodium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
7440-66-7	Boron				NR

or Before: _____ Clarity Before: _____ Texture: _____

or After: _____ Clarity After: _____ Artifacts: _____

ments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-34

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-33_

rix (soil/water): SOIL_ Lab Sample ID: PX-34_____

el (low/med): LOW__ Date Received: 06/27/98

olids: _80.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~27.9~~		~~R~~ N	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

.or Before: _____ Clarity Before: _____ Texture: _____

.or After: _____ Clarity After: _____ Artifacts: _____

nments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-35

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-33_

rix (soil/water): SOIL_ Lab Sample ID: PX-35_____

el (low/med): LOW__ Date Received: 06/27/98

olids: _75.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~76.4~~		~~R~~ N	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

or Before: _____ Clarity Before: _____ Texture: _____

or After: _____ Clarity After: _____ Artifacts: _____

ments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-36

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-33_

ix (soil/water): SOIL_ Lab Sample ID: PX-36_____

el (low/med): LOW__ Date Received: 06/27/98

olids: _42.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~0.88~~		~~R~~ N	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron___				NR

or Before: _____ Clarity Before: _____ Texture: _____

or After: _____ Clarity After: _____ Artifacts: _____

ments:

FORM I - IN

ILM03.0

100191

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-37

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-33_

rix (soil/water): SOIL_ Lab Sample ID: PX-37_____

el (low/med): LOW__ Date Received: 06/27/98

olids: _39.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~0.09~~	~~U~~	~~R N~~	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

.or Before: _____ Clarity Before: _____ Texture: _____

.or After: _____ Clarity After: _____ Artifacts: _____

ments:

FORM I - IN ILM03.0

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-38

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-33_

rix (soil/water): SOIL_ Lab Sample ID: PX-38_____

el (low/med): LOW__ Date Received: 06/27/98

olids: _36.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~0.10~~	~~U~~	~~R N~~	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

nments:

FORM I - IN ILM03.0

100193

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-39

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-33_

ix (soil/water): SOIL_ Lab Sample ID: PX-39_____

el (low/med): LOW__ Date Received: 06/30/98

olids: _81.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~0.67~~		~~R N~~	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

or Before: _____ Clarity Before: _____ Texture: _____

or After: _____ Clarity After: _____ Artifacts: _____

ments:

FORM I - IN ILM03.0

100194

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-40

Name: ADIRONDACK_ENVIRONMENTAL___ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-33_

rix (soil/water): SOIL_ Lab Sample ID: PX-40_____

el (low/med): LOW__ Date Received: 06/30/98

olids: _79.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~2.3~~		~~R~~ N	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

mments:

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-41

) Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

) Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-33_

:rix (soil/water): SOIL_ Lab Sample ID: PX-41_____

/el (low/med): LOW__ Date Received: 06/30/98

;olids: _76.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~1.4~~		~~R N~~	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

mments:

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-42

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-33_

trix (soil/water): SOIL_ Lab Sample ID: PX-42_____

el (low/med): LOW__ Date Received: 06/30/98

Solids: _72.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~35.0~~		~~R~~ N	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

olor Before: _____ Clarity Before: _____ Texture: _____

olor After: _____ Clarity After: _____ Artifacts: _____

omments:

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-43

) Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

) Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-33_

:rix (soil/water): SOIL_ Lab Sample ID: PX-43_____

vel (low/med): LOW__ Date Received: 07/01/98

Solids: _82.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	0.04	U	RN	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

mments:

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100198

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-44

) Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

) Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-33_

:rix (soil/water): SOIL_ Lab Sample ID: PX-44_____

/el (low/med): LOW__ Date Received: 07/01/98

;olids: _87.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	~~0.04~~	~~U~~	~~RN~~	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

mments:

FORM I - IN ILM03.0

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-45

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-33_

ix (soil/water): SOIL_ Lab Sample ID: PX-45_____

el (low/med): LOW__ Date Received: 07/01/98

olids: _89.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	~~Mercury~~	0.09	B	RN	~~AV~~
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron____				NR

lor Before: _____ Clarity Before: _____ Texture: _____

lor After: _____ Clarity After: _____ Artifacts: _____

mments:

FORM I - IN ILM03.0

100200

SFP No.: 2582

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to:
980627 B

Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
Rx-33	6/26/98 1225	5	L/M	G	6		B01								TOTAL MERCURY
Rx-33A	6/26/98 1230	5	L/M	G	6		B02								TOTAL MERCURY
Rx-34	6/26/98 1255	5	L/M	G	6		B03								TOTAL MERCURY
Rx-35	6/26/98 1310	5	L/M	G	6		B04								TOTAL MERCURY
Rx-36	6/26/98 1340	5	L/M	G	6		B05								TOTAL MERCURY
Rx-37	6/26/98 1406	5	L/M	G	6		B06								TOTAL MERCURY
Rx-38	6/26/98 1428	5	L/M	G	6		B07								TOTAL MERCURY

Comments:
Analysis for TOTAL MERCURY, 12-24 Turn Around REQUESTED (PA)

Person Assuming Responsibility for Sample: PATRICK A. AUSTIN

Time Date (MM/DD/YY): 1400 06/26/98

Reason for Change of Custody: DELIVER TO LAB

Sample Number	Relinquished By:	Time	Date	Received By:
All		1500	6/26	U.S. DELIVERY
		6/29/98 → 7:55 Am		M. L

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

RFP No.: 2582

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
PX-39	6/29/98/1100	5	L/M	G	6					980630D01					TOTAL MERCURY
PX-39 (matrix)	6/29/98/1110	5	L/M	G	6										TOTAL MERCURY
PX-40 (ms/msd)	6/29/98/1120	5	L/M	G	6							D02			TOTAL MERCURY
PX-41	6/29/98/1130	5	L/M	G	6							D03			TOTAL MERCURY
PX-42	6/29/98/1140	5	L/M	G	6							D04			TOTAL MERCURY

*NOTE Bottle indicates ms/msd is PX-40.
2 bottles for PX-40
1 bottle for PX-39
M. L
6/30/98 → 805

Comments:
Analysis for total mercury, 12-24 Turn around requested (24)

Person Assuming Responsibility for Sample:	Time Date (MM/DD/YY)
Patricia A. Austin	1140 06/29/98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
All		1600	6/29	U.S. Delivery	Delivery to lab
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
		800 Am	6/30/98	M. L	

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

* Run ms/msD on PX-40 per Smita 6/30/98 2:00

(CA) 100202

RFP No.: 2582

P.O. No.:

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
Rx-43	6/30/98/1530	5	L/M	G	6					A01					TOTAL MERCURY
Rx-44	6/30/98/1540	5	L/M	G	6					A02					TOTAL MERCURY

Comments: Analysis for Total Mercury, 12-24 hr. Turn Around. PA

Person Assuming Responsibility for Sample:	Time Date (MM/DD/YY)
Patrick A. Austin	1600 6/30/98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
All	Patrick A. Austin	1600	6/30/98	U.S. Delivery	Delivery to lab

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
		7:45 pm	7/1/98	M. [illegible]	

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix No. Ho	Preservative No. Ho
1. Surface Water	1. HCl
2. Ground Water	2. HNO3
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
Px-45	7/1/98/1430	5	L/M	G	6				980702 F01						TOTAL MERCURY

Comments: Mercury ~~Anal~~ analysis for Px-45 12-24 Turn Around Requested.

Person Assuming Responsibility for Sample:	Time Date (MM/DD/YY)
Patricia A. Austin	1430 7/1/98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
Px-45		1600	7/1/98	U.S. Delivery	Delivery to Lab
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
		801	7/2		Arrive @ Lab

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

100204

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

ab Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

ab Code: AES___ Case No.: RFW98 SAS No.: _____ SDG No.:PX-46_

OW No.: ILM02.1

EPA Sample No.	Lab Sample ID
_PX-46_____	_PX-46_____
_PX-46_D_____	_PX-46_D_____
_PX-46_S_____	_PX-46_S_____

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 floppy diskette has been authorized by the Laboratory Manager or the lanager's designee, as verified by the following signature.

Signature: Sheryl L. Martinez Name: Sheryl L. Martinez

Date: 7/20/98 Title: Inorganics Manager

COVER PAGE - IN ILM03.0

100205

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-46

Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-46_

rix (soil/water): SOIL_ Lab Sample ID: PX-46_____

el (low/med): LOW__ Date Received: 07/07/98

olids: _63.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	7.1			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
7440-66-7	Boron____				NR

lor Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

lor After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

nts:

FORM I - IN

No: 582

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.	Preservative Box No.
1. Surface Water	1. HCL
2. Ground Water	2. HNO3
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

nd verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sunbaly, START Analytical Coordinator

mple Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
Rx-46 *	7-7-98-900	5	L/M	G	6			980707			AD01				TOTAL MERCURY
Rx-47 •	7-7-98-920	5	L/M	G	6						AD02				TOTAL MERCURY
Rx-48 •	7-7-98-930	5	L/M	G	6						AD03				TOTAL MERCURY

Comments: 12 hour Turn Around requested for Rx-46

Person Assuming Responsibility for Sample: Patrick Austin

Time Date (MM/DD/YY): 0930 7-7-98

Reason for Change of Custody: Deliver to lab

Sample Number	Relinquished By:	Time	Date	Received By:
All		1100	7/7/98	
Sample Number	Relinquished By:	Time	Date	Received By:
Sample Number	Relinquished By:	Time	Date	Received By:
		7/7/98	2:50 pm	M. L

Reason for Change of Custody

Reason for Change of Custody

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sanfera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

* Verbal results are to be faxed to 914 782-0246
Please call 914 782-6760 for directions, with regard to Rx-47 and Rx-48 after anal

100207

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Lab Code: AES___ Case No.: RFW98 SAS No.: _____ SDG No.:PX-49_

OW No.: ILM02.1

EPA Sample No.	Lab Sample ID
_PX-49_____	_PX-49_____
_PX-49_D_____	_PX-49_D_____
_PX-49_S_____	_PX-49_S_____
_PX-50_____	_PX-50_____
_SED-2_____	_SED-2_____
_SED-3_____	_SED-3_____
_SED-4_____	_SED-4_____

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:

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 floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: _____

Date: _____ Title: _____

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-49

Lab Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Lab Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-49_

Matrix (soil/water): SOIL_ Lab Sample ID: PX-49_____

Level (low/med): LOW__ Date Received: 07/17/98

% Solids: _37.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	12.8		J	AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
7440-66-7	Boron____				NR

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

FORM I - IN ILM03.0

100209

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PX-50

Lab Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Lab Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-49_

Matrix (soil/water): SOIL_ Lab Sample ID: PX-50_____

Level (low/med): LOW__ Date Received: 07/24/98

% Solids: _54.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	2.9			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
7440-66-7	Boron____				NR

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SED-2

ab Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

ab Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-49_

latrix (soil/water): SOIL_ Lab Sample ID: SED-2_____

evel (low/med): LOW__ Date Received: 07/24/98

Solids: _34.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	8.7		J	AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
7440-66-7	Boron____				NR

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SED-3

Lab Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

Lab Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-49_

Matrix (soil/water): SOIL_ Lab Sample ID: SED-3_____

Level (low/med): LOW__ Date Received: 07/24/98

% Solids: _46.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	6.0		J	AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
7440-66-7	Boron___				NR

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SED-4

ab Name: ADIRONDACK_ENVIRONMENTAL_ Contract: _____

ab Code: AES___ Case No.: RFW981 SAS No.: _____ SDG No.: PX-49_

latrix (soil/water): SOIL_ Lab Sample ID: SED-4_____

.evel (low/med): LOW__ Date Received: 07/24/98

% Solids: _69.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	2.4			AV
7440-02-0	Nickel___				NR
7440-09-7	Sodium___				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-63-2	Potassium				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
7440-66-7	Boron____				NR

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

FORM I - IN ILM03.0

100213

RFP No.: 2582

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
Rx-49	7/16/98/0815	5	L/M	G	6										TOTAL MERCURY
980717 B01															

Comments: Analysis for Total Mercury, 12-24hr Turn Around Requested.

Person Assuming Responsibility for Sample:					Time Date (MM/DD/YY)
Patrick A. Austine					0815 07-16-98
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
Rx-49		1600	7/16	Corporate Express	Delivery to Lab
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
		7/17/98 8:25 PM		M. L	

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

100214

RFP No.: 2582

F[illegible]o.:

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

980724 A

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #s)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER
PX-50	7/21/98/1500	5	L	G	6										TOTAL MERCURY
SED-2	7/22/98/0935	5	L	G	6										TOTAL MERCURY
SED-3	7/22/98/0940	5	L	G	6										TOTAL MERCURY
SED-4	7/22/98/0945	5	L	G	6										TOTAL MERCURY

Comments: 24hr Turn Around for TOTAL MERCURY ANALYSIS REQUESTED (PA)

Person Assuming Responsibility for Sample: PATRICK A. AUSTIN

Time Date (MM/DD/YY): 0945 7-22-98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
All		1600	7-23		DELIVERY TO LAB FOR ANALYSIS.
		850	7/24/98	M. L	

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

100215

U.S. EPA – CLP

6
FIELD DUPLICATES

EPA SAMPLE NO.
PX-1 / PX-2

ab Name: Adirondack Environmental Contract:

ab Code: AES Case No.: RFW980 SAS No.: SDG No.: PX-1

latrix (soil/water): Soil Level (low/med): Low

, Solids Sample: 82.7 % % Solids Duplicate: 83.7 %

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

Analyte	Action Limit	Sample (S) PX-1 Concentration	C	Field Duplicate (D) PX-2 Concentration	C	RPD	DIFF	Q	M
Aluminum									P
Antimony									P
Arsenic									F
Barium									P
Beryllium									P
Cadmium									P
Calcium									P
Chromium									P
Cobalt									P
Copper									F
Iron									P
Lead									P
Magnesium									P
Manganese									P
Mercury	100 %RPD	9.26		10.65		25.5			CV
Nickel									P
Potassium									P
Selenium									F
Silver									P
Sodium									P
Thallium	-								F
Vanadium									P
Zinc									P
Cyanide									NR

FORM VI – IN

U.S. EPA – CLP

6
FIELD DUPLICATES

EPA SAMPLE NO.
PX-29/PX-30

Lab Name: Adirondack Environmental Contract:

Lab Code: AES Case No.: RFW980 SAS No.: SDG No.: PX-20

Matrix (soil/water): Soil Level (low/med): Low

% Solids Sample: 94.0% % Solids Duplicate: 94.1%

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

Analyte	Action Limit	Sample (S) PX-29 Concentration	C	Field Duplicate (D) PX-30 Concentration	C	RPD	DIFF	Q	M
Aluminum									P
Antimony									P
Arsenic									F
Barium									P
Beryllium									P
Cadmium									P
Calcium									P
Chromium									P
Cobalt									P
Copper									F
Iron									P
Lead									P
Magnesium									P
Manganese									P
Mercury	0.2 Diff	0.19		0.25			0.06		CV
Nickel									P
Potassium									P
Selenium									F
Silver									P
Sodium									P
Thallium									F
Vanadium									P
Zinc									P
Cyanide									NR

FORM VI – IN

U.S. EPA – CLP

6
FIELD DUPLICATES

EPA SAMPLE NO.
PX-39/PX-40

ab Name: Adirondack Environmental Contract:

Code: AES Case No.: RFW980 SAS No.: SDG No.: PX-33

latrix (soil/water): Soil Level (low/med): Low

% Solids Sample: 81.2 % % Solids Duplicate: 79.4 %

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

Analyte	Action Limit	Sample (S) PX-39 Concentration	C	Field Duplicate (D) PX-40 Concentration	C	RPD	DIFF	Q	M
Aluminum									P
Antimony									P
Arsenic									F
Barium									P
Beryllium									P
Cadmium									P
Calcium									P
Chromium									P
Cobalt									P
Copper									F
Iron									P
Lead									P
Magnesium									P
Manganese									P
Mercury		1.08		3.70		109.6			CV
Nickel									P
Potassium									P
Selenium									F
Silver									P
Sodium									P
Thallium									F
Vanadium									P
Zinc									P
Cyanide									NR

FORM VI – IN

FINAL REPORT
PYRIDIUM MERCURY DISPOSAL SITE
HARRIMAN, NY
APRIL 1999

EPA Work Assignment No.: 3-425
WESTON Work Order No.: 03347-143-001-3425-01
EPA Contract No.: 68-C4-0022

Prepared by:

Roy F. Weston, Inc./REAC

Michael Chilek
REAC Task Leader

4/16/99
Date

Edward F. Gilardi
REAC Program Manager

4/16/99
Date

Prepared for:

U.S. EPA/ERTC

George Prince
Work Assignment Manager

The following REAC personnel significantly contributed to field activities: Jessica Levine and Chris Agnew.

425\del\fr\9904\fr3425

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3.0 RESULTS AND CONCLUSIONS 1

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LIST OF FIGURES

FIGURE 1 Sample Location Map

APPENDICES

Appendix A Analytical Report

100220

1.0 INTRODUCTION

1.1 Objectives

The United States Environmental Protection Agency/Environmental Response Team Center (U.S. EPA/ERTC) Work Assignment Manager (WAM) George Prince, tasked personnel from the Response Engineering and Analytical Contract (REAC) to conduct a post removal confirmation soil sampling and analysis effort at the Pyridium Mercury Disposal site in Harriman, New York.

1.2 Site Background

The Pyridium Mercury Disposal site is located on one acre in the town of Harriman, Orange County, New York, at the intersection of New York State Route 17M and County Route 71 (Harriman Heights Road). The site is bordered on the northwest by Superior Shiftworks, on the northeast by New York State Route 17M, on the southeast by wetlands, and on the southwest by residential properties.

The New York State Department of Environmental Conservation (NYSDEC) had previously notified the New York Department of Health of a potential health threat at the Pyridium Mercury Disposal site. Sample analysis of a white clay-like material revealed mercury at a concentration of 238 milligrams per kilogram (mg/kg). The white clay-like material was a filter cake from an industrial process used to fill in wet areas on the site. Additional sampling at the site confirmed the presence of mercury in concentrations ranging from 0.643 mg/kg to 657 mg/kg. Laboratory results concluded that the material was contaminated with an inorganic mercury salt. The contaminated material on site was excavated, removed, and replaced with clean fill.

2.0 METHODOLOGY

Post excavation soil sampling at the Pryidium Mercury Disposal Site was conducted on 9 February 1999. A reference grid was established for the USEPA/ERTC by the U.S. EPA On-Scene Coordinator (OSC) prior to arrival of REAC personnel.

A total of 23 borings, identified as A thru V, were advanced using a Geoprobe™ sampling device, to a maximum depth of 9 feet (ft) (Figure 1). One or two soil samples were collected at each location at various depths, depending upon the boundary between the fill and natural material. Samples were collected using a dedicated acetate sleeve and stainless steel spoon, and placed into an appropriate sample jar. A total of 29 samples, including two duplicates and one field blank, were collected and analyzed for mercury (Appendix A).

3.0 RESULTS AND CONCLUSIONS

Post excavation soil sampling analysis for the Pyridium Mercury Disposal site resulted in 8 of the 23 locations having detectable levels of mercury (Table 1). Spatial distribution of locations with detectable mercury levels in the horizontal plane were concentrated in the southern half of the site, which contained six of the eight locations having detectable levels of mercury. The vertical profile revealed that five of the eight locations with detectable mercury levels occurred at a depth of 6 ft. The greatest detected mercury level 6.5 (mg/kg) at location I, was collected at a depth of 6 ft. Overall, mercury was not found in high concentrations with in the soil.

Tables

TABLE 1
Results of the Analysis for Mercury in Soil
Pyridium Mercury Disposal Site
Harriman, New York
APRIL 1999

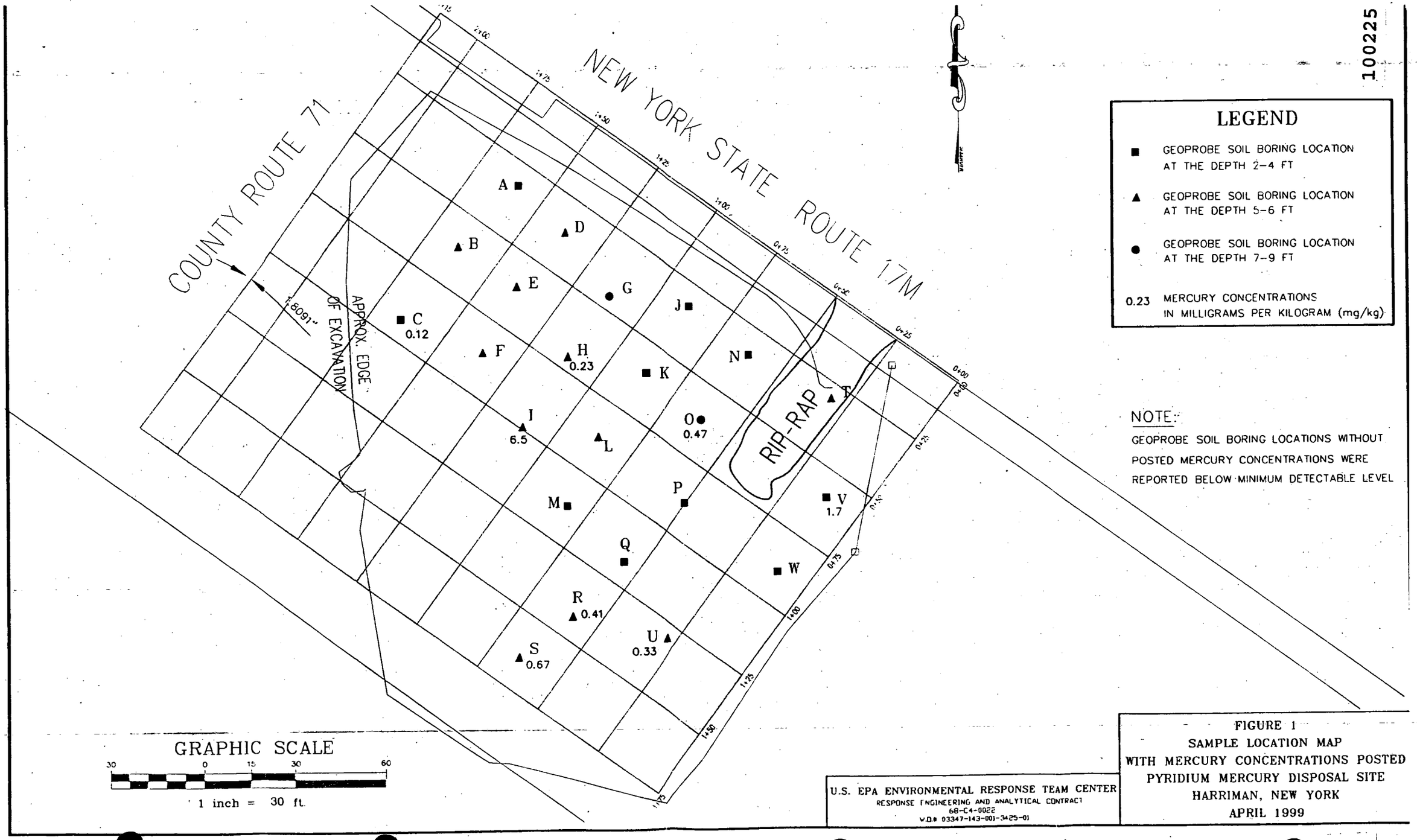
Location ID	Sample Depth (feet)	Mercury Concentration mg/kg	Mercury MDL mg/kg
W	2.5	U	0.11
U	6	0.33	0.11
S	6	0.67	0.11
R	6	0.41	0.11
Q	4	U	0.11
P	4	U	0.10
O	7	0.47	0.14
N	4	U	0.11
T	6	U	0.12
M	4	U	0.11
L	6	U	0.11
J	4	U	0.11
K	3	U	0.11
I	6	6.5	0.52
V	4	1.7	0.12
H	6	U	0.10
H	6 (DUP)	0.23	0.11
G	9	U	0.10
F	6	U	0.097
A	3	U	0.10
B	5	U	0.11
D	6	U	0.11
E	6	U	0.11
C	2	U	0.12
C	2 (DUP)	0.12	0.11
Field Blank	-	U	0.10

mg/kg milligrams per kilogram
MDL minimum detectable level

425\del\fr\9904\fr3425

Figures

100225



U.S. EPA ENVIRONMENTAL RESPONSE TEAM CENTER
RESPONSE ENGINEERING AND ANALYTICAL CONTRACT
68-C4-0022
W.O.# 03347-143-001-3425-01

FIGURE 1
SAMPLE LOCATION MAP
WITH MERCURY CONCENTRATIONS POSTED
PYRIDIUM MERCURY DISPOSAL SITE
HARRIMAN, NEW YORK
APRIL 1999

Appendix A

ANALYTICAL REPORT

Prepared by
Roy F. Weston, Inc.

Pyridium Mercury Disposal Site
Harriman, NY

March 1999

EPA Work Assignment No. 3-425
WESTON Work Order No. 03347-143-001-3425-01
EPA Contract No. 68-C4-0022

Submitted to
G. Prince
EPA-ERTC

M. Chilek Task Leader	3/11/99 Date	Analysis by: Accutest
V. Kansal Analytical Section Leader	3/12/99 Date	Prepared by: G. Karustis
E. Gilardi Program Manager	3/12/99 Date	Reviewed by: M. Barkley

3425\DEL\AR\9903\REPORT

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Appendix A Data for Mercury in Soil		Page I 036 001

Appendix will be furnished on request.

Introduction

REAC, in response to WA 3-425, provided analytical support for environmental samples collected from Pyridium Mercury Disposal Site located in Harriman, NY as described in the following table. The support also included QA/QC, data review, and preparation of an analytical report containing a summary of the analytical methods, the results, and the QA/QC results.

COC #	Number of Samples	Sampling Date	Date Received	Matrix	Analysis	Laboratory
07135	20	2/9/99	2/10/99	Soil	Mercury	Accutest
07136	9	2/9/99	2/10/99	Soil	Mercury	Accutest

Case Narrative

The data in this report have been validated to two significant figures. Any other representation of the data is the responsibility of the user.

Mercury in Soil Package I 036

The samples that were designated on chain of custody 07136 for the matrix spike analysis were not used. Instead, the subcontract laboratory used other REAC samples for the matrix spike analysis.

Summary of Abbreviations

AA	Atomic Absorption
B	The analyte was found in the blank
BFB	Bromofluorobenzene
C	Centigrade
D	(Surrogate Table) this value is from a diluted sample and was not calculated (Result Table) this result was obtained from a diluted sample
Dioxin	denotes Polychlorinated Dibenzo-p-dioxins and Polychlorinated Dibenzofurans and/or
PCDD	and PCDF
CLP	Contract Laboratory Protocol
COC	Chain of Custody
CONC	Concentration
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
DFTPP	Decafluorotriphenylphosphine
DL	Detection Limit
E	The value is greater than the highest linear standard and is estimated
EMPC	Estimated maximum possible concentration
ICAP	Inductively Coupled Argon Plasma
ISTD	Internal Standard
J	The value is below the method detection limit and is estimated
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MDL	Method Detection Limit
MI	Matrix Interference
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MW	Molecular Weight
NA	either Not Applicable or Not Available
NC	Not Calculated
NR	Not Requested
NS	Not Spiked
% D	Percent Difference
% REC	Percent Recovery
PPB	Parts per billion
PPBV	Parts per billion by volume
PQL	Practical Quantitation Limit
QL	Quantitation Limit
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
SIM	Selected Ion Monitoring
TCLP	Toxic Characteristics Leaching Procedure
U	Denotes not detected
W	Weathered sample; the results should be regarded as estimated

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

*	denotes a value that exceeds the acceptable QC limit
	Abbreviations that are specific to a particular table are explained in footnotes on that table

Revision 7/23/98

Analytical Procedure for Mercury in Soil

The subcontract laboratory determined the mercury concentration in the samples by analyzing them according to USEPA SW-846 Method 7471 A. The results are listed in Table 1.1.

Table 1.1 Results of the Analysis for Mercury in Soil
WA # 3-425 Pyridium Mercury Disposal Site
(based on dry weight)

Sample ID	Location	% Solids	Mercury Conc mg/kg	Mercury MDL mg/kg
Method Blank	-	100	U	0.10
A17151-W	W-2.5'	86.8	U	0.11
A17152-U	U-6'	86.4	0.33	0.11
A17153-S	S-6'	89.4	0.67	0.11
A17154-R	R-6'	87.1	0.41	0.11
A17155-Q	Q-4'	88.2	U	0.11
A17156-P	P-4'	92.8	U	0.10
A17157-O	O-7'	68.2	0.47	0.14
A17158-N	N-4'	88.3	U	0.11
A17159-T	T-6'	82.3	U	0.12
A17160-M	M-4'	87.6	U	0.11
A17161-L	L-6'	88.4	U	0.11
A17162-J	J-4'	88.5	U	0.11
A17163-K	K-3'	86.5	U	0.11
A17164-I	I-6'	91.7	6.5	0.52
A17165-V	V-4'	79.0	1.7	0.12
A17166-H	H-6'	90.2	U	0.10
A17167-H	H-DUP	87.6	0.23	0.11
A17168-G	G-9'	85.7	U	0.10
A17169-F	F-6'	90.3	U	0.097
A17170-A	A-3'	92.2	U	0.10
A17171-B	B-5'	87.3	U	0.11
A17172-D	D-6'	80.8	U	0.11
A17173-E	E-6'	88.3	U	0.11
A17175-C	C-2'	85.5	U	0.12
A17176-C	C-DUP	86.6	0.12	0.11
A17179-FB	FB	99.9	U	0.10

QA/QC for Mercury

Results of the Matrix Spike Analysis for Mercury in Soil

Samples A 17152-U and a 17156-P were chosen for the matrix spike analysis. The percent recoveries, listed in Table 2.1, were 98 and 100 and both percent recoveries were within the acceptable QC limits.

Results of the Duplicate Analysis for Mercury in Soil

Samples A 17152-U and a 17156-P were chosen for the duplicate analysis. Neither relative percent difference, both listed in Table 2.2, was calculated because, in the case of A 17156-P, the analyte was not detected in either analysis, and in the case of A 17152-U, the analyte was not detected in the duplicate analysis.

Results of the Analysis of the Laboratory Control Sample for Mercury in Soil

The percent recoveries of mercury in the laboratory control sample, listed in Table 2.3, ranged from 73 to 103 and all three percent recoveries were within the acceptable QC limits.

Results of the Blank Spike Analysis for Mercury in Soil

The percent recoveries for the blank spike analysis, listed in Table 2.4, ranged from 99 to 110 and all three percent recoveries were within the acceptable QC limits.

Table 2.1 Results of the Matrix Spike Analysis for Mercury in Soil
WA # 3-425 Pyridium Mercury Disposal Site
(based on dry weight)

Metal	Sample ID	Sample Conc mg/kg	Spike Conc mg/kg	Rec Conc mg/kg	% Rec	QC Limits
Mercury	A 17152-U	0.33	1.2	1.5	98	75-125
Mercury	A 17156-P	U	1.0	1.0	100	75-125

Table 2.2 Results of the Duplicate Analysis
for Mercury in Soil
WA # 3-425 Pyridium Mercury Disposal Site
(based on dry weight)

Analyte	Sample ID	Initial Analysis mg/kg	Duplicate Analysis mg/kg	RPD	QC Limits
Mercury	A 17156-P	U	U	NC	0-20
Mercury	A 17152-U	0.33	U	NC	0-20

Table 2.3 Results of the Analysis of the Laboratory Control Sample for Mercury in Soil WA # 3-425 Pyridium Mercury Disposal Site

Metal	Analyzed Value mg/kg	Certified Value mg/kg	% Rec	Limits mg/kg
Mercury	3.2	4.39	73	68-132
Mercury	4.4	4.39	100	68-132
Mercury	4.5	4.39	103	68-132

Table 2.4 Results of the Blank Spike Analysis
for Mercury in Soil
WA # 3-425 Pyridium Mercury Disposal Site

Metal	Spiked Conc mg/kg	Rec Conc mg/kg	% Rec	QC Limit
Mercury	1	0.99	99	80-120
Mercury	1	1.1	110	80-120
Mercury	1	1	100	80-120

WESTON
MANAGERS DESIGNERS/CONSULTANTS
Roy F. Weston, Inc.
GSA Raritan Depot
Bldg. 209 Annex (Bay F)
2890 Woodbridge Avenue
Edison, New Jersey 08837-3679
732-321-4200 • Fax 732-494-4021

Accutest Labs
Fresh Ponds Corp Village, Bldg B
2235 Route 130
Dayton, NJ 08810

Attn: Matt Cordova

9 February 1999

Project # 3347-143-001-3425 Pyridium Mercury

As per Weston REAC Purchase Order number 101044, please analyze samples according to the following parameters:

Analysis/Method	Matrix	# of samples
Hg\ SW-846-7471A	Soil	40
Data package: Package with Diskette Deliverable		

Samples are expected to arrive at your laboratory on February 11 ,1999. **All applicable QA/QC (MS/MSD) analysis as per method, will be performed on our sample matrix.** Preliminary sample result tables plus a signed copy of our Chain of Custody must be faxed to REAC 10 business days after receipt of the last sample. The complete data package is due 21 business days after receipt of last batch of samples. The complete data package must include all items on the deliverables checklist. **Expect all samples to be difficult matrix and all raw data must be included in final analytical report.**

All sample and QC results(ie: MS/MSD, LCS, Duplicates, and Blanks) must be summarized in a Quattro Pro diskette deliverable.

Please submit all reports and technical questions concerning this project to **John Johnson at (732) 321-4248 or fax to (732) 494-4020.** Any contractual question, please call Cynthia Lentini at (732) 321-4296.

Sincerely,

Misty Barkley
Data Validation and Report Writing Group Leader
Roy F. Weston, Inc. / REAC Project

MB:jj Attachments

cc: R. Singhvi
G. Prince
3425\non\mem\9902\sub\3425Con
V. Kansal
Subcontracting File
C. Gasser
C. Lentini
J. Levine
M. Barkley

Click to WESTON On The Web http://www.rfweston.com

REAC, . .son, NJ
(908) 321-4200
EPA Contract 68-C4-0022

CHA OF CUSTODY RECORD

Project Name: Puriolum Mercury Disposal Site
Project Number: 03347-143-001-3485 REAC
RFW Contact: Jessica R Levine Phone: (732) 321-4265

No: 07135

SHEET NO. 1 OF 1

100239

Sample Identification / **Analyses Requested**

REAC #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	Mercury			
E45365-1	A17165-V	V-4'	S	2/9/99	1	8oz / 4°C	X			
-2	A17151-W	W-2.5'			1		X			
-3	A17152-U	U-6'			1		X			
-4	A17153-S	S-6'			1		X			
-5	A17154-R	R-6'			1		X			
-6	A17155-Q	Q-4'			1		X			
-7	A17156-P	P-4'			1		X			
-8	A17157-O	O-7'			1		X			
-9	A17158-N	N-4'			1		X			
-10	A17159-T	T-6"			1		X			
-11	A17160-M	M-4'			1		X			
-12	A17161-L	L-6'			1		X			
-13	A17162-J	J-4'			1		X			
-14	A17163-K	K-3'			1		X			
-15	A17164-I	I-6'			1		X			
-16	A17166-H	H-6'			1		X			
-17	A17167-H	~~H-6'~~ H-DUP			1		X			
-18	A17168-G	G-9'			1		X			
-19	A17169-F	F-6'			1		X			
-20	A17170-A	A-3'			1		X			

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X -	Other	SL -	Sludge	A -	Air

Special Instructions: HAG's @ 2/10

TW!

FULL!!

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Samples/Analysis		2/10/99		2/10/99	1200						

FORM #4

RECEIVED AT AC...

00033

00011

1036

REAC, Edison, NJ
(908) 321-4200
EPA Contract 68-C4-0022

CHAIN OF CUSTODY RECORD

Project Name: Pyrolum Mercury Disposal Site
Project Number: 03347-143-001-3425-01
RFW Contact: Jessica R Irvine Phone: 732 321 4065

No: 07136
SHEET NO 2 OF 2

100240

Sample Identification / Analyses Requested

REAC #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	Mercury			
E45365-21	A17171-B	B-5'	S	2/7/99	1	8oz / 4°C	X			
-22	A17172-D	D-6'			1		X			
-23	A17173-E	E-6'			1		X			
-24	A17174-E	MS-DUP			1		X			
-25	A17175-C	C-2'			1		X			
-26	A17176-C	C-DUP			1		X			
-27	A17177-C	C-MS			1		X			
-28	A17178-C	MS-DUP			1		X			
-29	A17179-FB	FB+			1		X			

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X -	Other	SL -	Sludge	A -	Air

Special Instructions: NAB's @ 2/10
* USE SAMPLE A17173-E for MS
+ FB is sand @ 2/10

TW!

QA 2/10/99

FOR SUBCONTRACTING USE ONLY
FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Samples/Blanks		2/10/99		2/10/99	1200						

FORM #4

00012

1036 0034

ATTACHMENT G

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: OCT 2 3 1998

SUBJECT: Pyridium Mercury Disposal Site Data Salvage

FROM: Hanif Sheikh, Chemist
Hazardous Waste Support Section (2DESA-HWSB)

TO: Irmee Huhn, On-Scene Coordinator
Removal Section (2ERRD-RAB)

As per your request, I have reviewed the mercury data generated from samples collected at the Pyridium Mercury Disposal site. Fifty seven (57) soil samples were analyzed by Adirondack Environmental Services in accordance with the CLP Statement of Work (SOW), ILM04.0. The data was initially validated by the Weston validator. All mercury results in two Sample Delivery Groups (SDGs) were rejected due to matrix spike recoveries being outside the acceptance limits. The purpose of my review is to determine whether these results can be salvaged as appropriate for the intended use. The action level for the site is 25 ppm. My comments are as follows:

SDG # PX-1 (6 Soil Samples)

1. Results reported by the laboratory for this SDG range from 0.65 ppm to 6.9 ppm.

2. All six sample results rejected in this SDG are much lower than the action level (25 ppm) for the site

3. These results were rejected due to high matrix spike recovery (282.2%). Consequently, results reported by the laboratory can be considered biased high, i.e., the actual results should be lower than the reported results. These results can be corrected to values ranging from 0.2 ppm to 2.4 ppm. Both corrected and uncorrected results are below the action level of 25 ppm.

SDG # PX- 33 (14 Soil Samples)

1. Sample results in this SDG ranged from non-detects through 232 ppm.

2. The laboratory analyzed two matrix spiked samples for this SDG:

(i) Six samples, PX-33 through PX-38, were digested and analyzed with one matrix spiked sample with a spike recovery of 447.3%. The initial validator rejected all associated sample results according to the matrix spike recovery QC criteria . However, results for samples PX-37 and PX-38 should not have been rejected due to high matrix spike recovery criteria because mercury was not detected in these samples:

(ii) Results for samples PX-33 and PX-36 are 4.2 ppm and 0.88 ppm, respectively. Based on associated high percent spike recovery, these results are considered biased high and as such are useable when the action level is 25 ppm.

(iii) Results for samples PX-33A, PX-34 and PX-35 are 232 ppm, 27.9 ppm and 76.9 ppm, respectively, which are higher than the action level (25 ppm). However, these results are considered biased high because of the associated high spike recovery (447.3%). A correction based upon simple arithmetic principles of percent calculations can be applied to obtain corresponding unbiased results. Application of this correction results in the following corrected results:

Sample #	Biased High Results	Corrected Results
PX- 33A	232 ppm	51.9 ppm
PX-34	27.9 ppm	6.2 ppm
PX-35	76.4 ppm	17.1 ppm

Two of the corrected results are lower than the action level, but the third result (51.9 ppm for PX-33A) is still higher.

(iv) The other spiked sample was digested and analyzed with four samples, PX-39, PX-40, PX41 and PX-42. The percent spike recovery for this batch was -25.5%. Associated sample results (which range from 0.67 ppm to 35.2ppm) are considered biased low, (i.e., the actual results should be higher than the reported results). It is suspected that interferences present in the samples severely depressed the detection of mercury resulting in negative matrix spike recovery. Unbiased/corrected results are believed to be extremely higher than both the reported results and action level.

Conclusion

The initial validator rejected mercury results due to the matrix spike recoveries being outside the acceptance limits. The reported sample results for SDG # PX-1 are considered biased high due to high matrix spike recovery (282.2%). Both corrected and reported results in this SDG are below the removal action level (25 ppm). Results for six samples (PX-33 through PX-38) in SDG # PX -33 are also considered biased high due to the associated matrix spike recovery (447.3%). Application of an arithmetical correction yielded all values except one below the action level. Corrected result (51.9 ppm) for sample PX-33A still remains greater than the action level. Four other samples in SDG # PX-33 were associated with matrix spike recovery of -25.5%. The reported results for these samples are biased extremely low and the corrected results would be extremely high. The spiked sample analysis provides information about the effect of the sample matrix on the digestion and measurement methodology. Matrix spike recovery may be affected by sample matrix, contamination from a variety of sources, interferences, sample homogeneity, sample preparation and analysis techniques, and, hence, determines the accuracy of a measurement process. The laboratory analyzed two matrix spiked samples for the same SDG # PX-33 with extremely high (447.3%) and extremely low (-25.5%) recoveries, utilizing the same sample preparation and analysis procedures. In light of a number of factors affecting the matrix spike recovery, it is recommended that all samples in SDG # PX-33 must be recollected and reanalyzed to generate more reliable results.

If you have any questions, please contact me at (732) 906-6169.

cc: Robert Runyon, 2DESA-HWSB
Richard Salkie, 2ERRD-RAB
Joseph Rotola, 2ERRD-RAS

SAMPLING TRIP REPORT

SITE NAME: Pyridium Mercury Disposal Site #1
DCN#: START-02-F-01910
TDD #: 02-98-04-0018B
RFP #: 2676

EPA I.D. NO.: EV

SAMPLING DATE: June 18, 1998

1. Site Location: Refer to Figure 1

2. Sample Locations: Refer to Figure 2

3. Sample Descriptions: Refer to Table 1

4. Laboratories Receiving Samples:

Sample Type	Name and Address of Laboratory
Target Compound List (TCL) Organics Target Analyte List (TAL) Inorganics (including cyanide)	Compuchem 501 Madison Avenue Cary, NC 27513

5. Sample Dispatch Data:

Twelve soil samples and three aqueous samples, including a rinsate blank, for TCL, and TAL analysis including cyanide, and one Trip Blank for TCL volatiles analysis, were shipped to Compuchem on June 18, 1998 at 2030 hours via Federal Express (air bill No. 802126445276).

6. On-Site Personal:

Name	Company	Duties on Site
Irmee Huhn	EPA	On-Scene Coordinator (OSC)
Pat Austin	Region II START	Project Manager
Tom O'Neil	Region II START	Sample Coordinator
Dave Adams	Region II START	Sampler
Jeremy Sawetz	Region II START	Sampler

7. Additional Comments:

On June 18,1998 the Region II Superfund Technical Assessment and Response Team (START) collected soil and surface water samples from the Pyridium Mercury Disposal Site #1, Route 17M, Harriman, NY. These samples were collected as part of an enforcement case against

potentially responsible parties. Split samples were collected for all sample locations for potentially responsible parties which may be identified in the future. All samples collected by Region II START were analyzed for Target Compound List (TCL) and Target Analyte List (TAL) parameters, including cyanide. Chain of custody forms are presented in Attachment 1.

The BNA portion of the sample analysis will be done by EPA SW-846 methods rather than CLP methods. Analysis by SW-846 will include pyridine and methyl pyridine as target compounds.

At sample locations S-01, S-02, S-03, and S-04, an additional 8-oz sample for TAL analysis was collected for EPA's Division of Environmental Science and Assessment (DESA). START also collected split sample volumes for any PRPs. All samples were hand delivered by Region II START to Kevin Kubik, EPA, at 1107 hrs on June 19, 1998.

8. Report Prepared by: Rana Salzhauer Date: 1-31-01

9. Report Approved by: Christoph Stannik Date: 1-31-01

TABLE 1
SOIL SAMPLE DESCRIPTIONS
PYRIDIUM MERCURY DISPOSAL SITE #1, HARRIMAN, NY

Sample No.	Date	Time	Matrix	Analysis	Depth	Comments
W-01	6/18/98	0935	Aqueous	TCL/TAL/ Cyanide	Surface water	Pale brown, turbid water (MS/MSD), 100' SW of E/W 00 axis and 50' NW of N/S 00 axis
W-02	6/18/98	0940	Aqueous	TCL/TAL/ Cyanide	Surface water	Duplicate of W-01
TB-01	6/18/98	1000	Aqueous	VOA	n/a	Trip Blank
Rin-1	6/18/98	1525	Aqueous	TCL/TAL/ Cyanide	n/a	Rinsate Blank
S-01	6/18/98	1315	Soil/waste	TCL/TAL/ Cyanide	2-8"	Whitish-grey fill material. 78.7' SW of E/W 00 axis and 129' NW of N/S 00 axis. Additional 8-oz sample collected for DESA, lab # 206653.
S-02	6/18/98	1325	Soil/waste	TCL/TAL/ Cyanide	2-8"	Whitish-grey fill material. 49.7' SW of E/W 00 axis and 125' NW of N/S 00 axis. Additional 8-oz sample collected for DESA, lab # 206654.
S-03	6/18/98	1335	Soil/waste	TCL/TAL/ Cyanide	2-8"	Whitish-grey fill material. 68' SW of E/W 00 axis and 129.5' NW of N/S 00 axis. Additional 8-oz sample collected for DESA, lab # 206655.
S-04	6/18/98	1350	Soil/waste	TCL/TAL/ Cyanide	2-8"	Whitish-grey fill material. 82.4' SW of E/W 00 axis and 127' NW of N/S 00 axis. Additional 8-oz sample collected for DESA, lab # 206656
S-05	6/18/98	1415	Soil/waste	TCL/TAL/ Cyanide	2.6-2.8'	Whitish-grey fill material. 41.5' SW of E/W 00 axis and 92' NW of N/S 00 axis.

S-06	6/18/98	1440	Soil/waste	TCL/TAL/ Cyanide	4.5'	Whitish-grey fill material. 41.5' SW of E/W 00 axis and 92' NW of N/S 00 axis. MS/MSD
S-07	6/18/98	1510	Soil	TCL/TAL/ Cyanide	7'	Fine,dark brown-grey silt with tiny seashell, no odor. 41.5' SW of E/W 00 axis and 92' NW of N/S 00 axis.
S-08	6/18/98	1610	Soil	TCL/TAL/ Cyanide	5'	Fine, dark brown-grey silt with tiny seashells, no odor. 77.2' SW of E/W 00 axis and 64' NW of N/S 00 axis.
S-09	6/18/98	1620	Soil	TCL/TAL/ Cyanide	5'	Duplicate of S-08
S-10	6/18/98	1630	Soil	TCL/TAL/ Cyanide	6'	Fine, dark brown-grey silt with tiny seashells, no odor. 49.7' SW of E/W 00 axis and 125' NW of N/S 00 axis.
S-11	6/18/98	1720	Soil	TCL/TAL/ Cyanide	3.5'	Medium brown soil. Sample collected under black soil w/rotten egg odor. 79.7' SW of E/W 00 axis and 144.4' NW of N/S 00 axis.
S-12	6/18/98	1700	Soil	TCL/TAL/ Cyanide	3.5'	Medium brown soil. Sample collected under black soil w/rotten egg odor. Water began to enter sample hole. 82.4' SW of E/W 00 axis and 127' NW of N/S 00 axis.

REVISED POST EXCAVATION SAMPLING REPORT

PYRIDIUM MERCURY DISPOSAL SITE # 1
HARRIMAN, ORANGE COUNTY, NEW YORK

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1.0 INTRODUCTION

1.1 BACKGROUND

The Pyridium Mercury Disposal Site No. 1 was a trailer park located at the intersection of State Route 17M and Harriman Heights Road (local Route 71) in the Village of Harriman, Orange County, New York. Five mobile home trailers were located at the trailer park. All the trailers were occupied as residential dwellings. The one acre site is bordered on the northwest by Superior Shiftworks, on the northeast by Route 17M, on the southeast by wetlands, and on the southwest by residential properties.

In August 1994, the New York State Department of Environmental Conservation notified the New York Department of Health of a potential health threat at the trailer park. Analysis of a white clay-like material discovered at the trailer park revealed mercury at a concentration of 238 milligrams per kilogram (mg/kg). Mercury is typically found in soils in the eastern United States at levels ranging between 0.01 to 3.4 mg/kg (USEPA, June 1998). The material was apparently used in the late 1940's and early 1950's to fill low-lying areas of a wetland. This material was reportedly a filter cake from the production of niacinamide by the Pyridium Corporation. Nepera Inc. of Harriman, New York, currently occupies and operates the facility previously operated by the Pyridium Corporation.

In October 1994, the United States Environmental Protection Agency (USEPA) tasked the Region II Technical Assistance Team (TAT) to conduct a study to determine the nature and horizontal extent of contamination in the surface soils at the site. Surface soils (0-6") were screened in-situ using an X-Ray Florescence Analyzer (XRF). Samples of the waste material were collected and analyzed to determine toxicity using the Toxicity Characteristic Leaching Procedure (TCLP). The waste was determined to be a chemical substrate contaminated with a mercuric or mercurous salt. Results of TCLP analysis were below the regulatory limits for the analytes. Based on this analysis, the waste was determined not to exhibit the characteristic of toxicity as defined in the Resource Conservation and Recovery Act (RCRA).

In December 1994, the USEPA and TAT conducted a study to determine the vertical and horizontal extent of mercury contamination at the site. The sampling was conducted on December 6, 1994. Eleven soil borings were advanced to a maximum depth of 12 feet using a Geoprobe. A total of 13 samples were screened for mercury using the XRF. Based on the results it was estimated that 4,000 cubic yards of mercury contaminated soil existed at the site.

In November 1997, the USEPA Region II Superfund Technical Assessment and Response Team (START) performed soil sampling to determine mercury contamination along the site perimeter. A total of sixteen (16) soil samples were collected to determine if total mercury contamination extended beyond the property boundaries for the purposes of fence installation in a clean area. Total mercury concentrations ranged from 0.15 mg/kg to 284 mg/kg in these samples.

2.0 SAMPLING DESIGN AND APPROACH

The removal action was conducted to excavate and dispose of the mercury waste and contaminated soil. The objectives of the pre post-excavation and post excavation sampling were to delineate the horizontal and vertical extent of mercury contamination and to verify that excavation activities were effective in removing contaminated soils exceeding the EPA established clean up goal (25 mg/kg mercury) for the site.

On March 13, 1998 delineation sampling was initiated at locations approximately ten feet from previous sampling locations to determine the horizontal and vertical extent of contamination. Soil samples were collected at fifty (50) foot and ten (10) foot intervals along the assumed perimeter of the future excavation. Due to the expected size of the excavation, samples were collected at a frequency of one sample per 50 feet of perimeter. In sample locations where the analytical results indicated mercury levels below the 25 mg/kg cleanup level, an additional sample was collected 10 feet towards the center of the site. A total of thirty-one (31) surface (0-3") soil samples and ten (10) subsurface (6-12") samples were collected. Total mercury concentrations ranged from 2.2 mg/kg to 220 (J) mg/kg. On March 25, 1998 an additional six (6) surface soil samples and fifteen (15) subsurface soil samples were collected and submitted for mercury analysis. Total mercury concentrations ranged from 0.1 mg/kg to 154 (J) mg/kg in these samples.

On April 16, 1998, two additional surface soil and two subsurface soil samples were collected. Total mercury concentrations ranged from 0.22 mg/kg to 9.1 mg/kg in these samples.

On April 22, 1998, the Region II USEPA and the Emergency and Rapid Response Services (ERRS) Contractor mobilized to the Site to conduct a removal action to excavate mercury contaminated soils. On April 27, 1998 START mobilized to the site. Contaminated soil in the former trailer park area was excavated and stockpiled on site during the period from April 28 through July 22, 1998. Excavation of mercury contaminated soil was based on previous sampling results and visual observations. Excavation activities were followed by the collection of post excavation samples. Previous sample locations from the delineation were utilized as post excavation perimeter samples: AC-2, C-3, I4C, M4A, and Q-1; and sidewall samples collected at locations AC-2D, C-3D, I4C-D, M4A-D, and Q-1D. For additional information on the above samples, refer to the Soil Sampling and Analysis Summary Report - Pyridium Mercury Disposal Site No. 1, DCN#: START 02-D-01762. Additionally, as the excavation progressed, START collected the following pre post-excavation samples: **SCR-1**, PX-33, **PX-33A**, **PX-34**, **PX-35**, PX-36, PX-37, PX-38, **PX-42**, PX-46, PX-47, and PX-48. The bolded samples exceeded the cleanup level. Additional samples were collected near those locations, after additional excavation was conducted until the post-excavation samples were below the cleanup level. In areas where water had accumulated or could accumulate, samples were collected to identify the vertical extent of contamination in that area prior to excavation. If the result was below the cleanup level, the excavation would continue to that depth. If the result was above the cleanup level, a sample was collected at a lower depth and once the cleanup level was reached, the area was excavated to that depth.

On May 4, 1998, a total of eight (8) test pits (TP-1 - TP-8) were excavated by the ERRS contractor to determine the vertical extent of mercury contamination and the depth where water

could be expected in various areas of the site. Depths of the pits ranged from 2.5 - 7.0 feet below grade. Total mercury concentrations ranged from 0.15 mg/kg to 67.2 mg/kg. The sample depths, descriptions, and analytical data are summarized in Table 1.

Soil samples were collected at excavation locations based on the post excavation sampling design which entailed collecting one sample for every 50 feet of perimeter and one base sample for every 1,500 square feet of excavated bottom. The pre post-excavation sampling was conducted on March 13, 25 and April 16, 1998, and accounted for five of the perimeter and sidewall locations (AC-2, C-3, I4C, M4A, and Q-1 and AC-2D, C-3D, I4C-D, M4A-D, and Q-1D, respectively). As necessitated by the excavation, ten (10) additional perimeter samples (PX-3, PX-6, PX-11, PX-12, PX-14, PX-21, PX-24, PX-27, PX-29, and PX-49), four (4) sidewall samples (PX-25, PX-28, PX-31, and **PX-42**), and twenty-nine (29) base samples (PX-1, PX-4, PX-5, **PX-7**, PX-8, PX-9, PX-10, PX-13, PX-15, PX-16, PX-17, PX-18, PX-19, PX-20, PX-23, PX-26, **PX-32**, PX-36, PX-37, PX-38, PX-39, PX-41, PX-43, PX-44, PX-45, SCR-2, SCR-3, PX-46, and PX-50) were collected between May and July 1998. The sample locations, depths, descriptions and analytical data are summarized in Table 2.

QA/QC samples included the collection of three field duplicates, PX-2 (duplicate of PX-1), PX-30 (duplicate of PX-29), and PX-40 (duplicate of PX-39) and extra volume for matrix spike/matrix spike duplicate analysis. At shallow excavation depths, samples were collected using disposable scoops. On June 26, 1998, pre post-excavation samples PX-33, PX-33A, PX-34 and PX-35 were collected underwater with a non-dedicated hand auger that was decontaminated between locations following EPA/ERT SOP #2006, Sediment Sampling. Pre post-excavation samples PX-36, PX-37 and PX-38 were collected from the excavator bucket using a disposable scoop. Samples PX-42, PX-46, PX-47, PX-48 and PX-50 were collected with non-dedicated stainless steel hand augers. All samples were collected in accordance with the START QA/QC Post Excavation Sampling Plan (Weston, 1998, DCN: START -02-F-01812). Custody of each sample was transferred to Corporate Express Delivery Systems, (except for PX-46, PX-47 and PX-48 which were submitted to Valley Courier and Delivery Service, Inc., Kingston, NY) for delivery to Adirondack Laboratories, for total mercury analysis. The EPA On-Scene Coordinator (OSC) requested a Level 2 Quality Assurance Objective (QA-2).

The samples were analyzed by Adirondack Environmental Services, in accordance with the Contract Laboratory Program (CLP) Statement of Work (SOW) ILMO4.0. The data packages generated for these samples were reviewed by a START data validator. Twenty of the sample results (PX-1, PX-2, PX-3, PX-4, PX-5, PX-6, PX-33, PX-33A, PX-34, PX-35, PX-36, PX-37, PX-38, PX-39, PX-40, PX-41, PX-42, PX-43, PX-44 and PX-45), two of which were duplicates, were rejected due to spike percent recoveries (%R) outside of the specified QC limits in the associated samples.

A second review of the data package was performed by the U.S. EPA Hazardous Waste Support Section (USEPA, October 23, 1998) to determine whether the results could be salvaged for the purposes of verifying that excavation activities were successful in removing mercury contamination in excess of 25 mg/kg. Six sample results associated with Sample Delivery Group (SDG) PX-1 (PX-1, PX-2, PX-3, PX-4, PX-5, PX-6) were rejected due to high matrix spike recovery (282.2%). These results were considered biased high, meaning,

the actual results were lower than those reported. However, if the results were mathematically corrected, the resulting mercury concentrations would have ranged from 0.2 mg/kg to 2.4 mg/kg, which were below the 25 mg/kg cleanup level. Therefore the analytical results for the samples associated with SDG PX-1 were accepted.

The reported results for seven samples associated with SDG PX-33 (PX-33, PX-33A, PX-34, PX-35, PX-36, PX-37, and PX-38) were biased high (447.3%) due to the associated matrix spike recovery. PX-37 and PX-38 should not have been rejected due to the high matrix spike recovery criteria because mercury was not detected in these samples. Using the same correction factor as SDG PX-1, the results associated with six (6) of the seven (7) samples were below the cleanup level. However, the corrected result for PX-33A (51.9 mg/kg) was still above the action level. The analytical results for the other 6 samples in SDG PX-33 were accepted.

Three samples were bulked into SDG PX-33 (by the lab) although they were collected on different days. The lab digested and analyzed PX-43, PX-44, and PX-45 together without a matrix spike and lab duplicate. The results of PX-43 and PX-44 were non-detects, and should not have been rejected due to the high matrix spike recovery criteria.

Utilizing the same sample preparation and analysis procedures, seven other samples in SDG PX-33 (PX-39, PX-40, PX-41, PX-42, PX-43, PX-44, and PX-45) were associated with an extremely low matrix spike recovery (- 25.5%). If these results were corrected with the same procedures as SDG PX-1 and SDG PX-33, the corrected results would be extremely high and were, therefore, rejected. The spiked sample analysis provides information about the effect of the sample matrix on the digestion and measurement methodology. Matrix spike recovery may be affected by sample matrix, contamination from a variety of sources, instrument interferences, sample homogeneity, sample preparation and analysis techniques. A memo from Hanif Sheikh (USEPA Hazardous Waste Support Section), to Irmgard Huhn (USEPA, October 23, 1998) recommended that all samples in SDG PX-33 be recollected and reanalyzed to generate more reliable results.

On February 9, 1999, Response Engineering and Analytical Contract (REAC) personnel assisted the USEPA/Emergency Response Team (ERT) in conducting additional soil sampling (Weston, February 26, 1999). A grid was established by the USEPA OSC prior to the arrival of REAC personnel. A total of 23 soil borings (A - W) were advanced up to a depth of 8 feet using a Geoprobe sampling device. One sample was collected at each location. The samples were obtained at various depths, depending on the contact between the fill and natural material. A total of 29 samples, including two duplicates, three MS/MSD samples, and one field blank were collected and analyzed for total mercury. Samples were collected using a dedicated acetate sleeve and dedicated stainless steel spoon and placed into an appropriate sample jar. Total mercury concentrations ranged from 0.12 mg/kg to 6.5 mg/kg in these samples (Weston, March 1999), well below the cleanup level of 25 mg/kg mercury. The sample locations, depths, descriptions and analytical data for the February 9, 1999, sampling event are summarized in Table 3.

3.0 CONCLUSIONS

Approximately 6,590 cubic yards of contaminated soil and waste were excavated from the former trailer park and loaded for off site treatment and disposal at the G.R.O.W.S. landfill, Morrisville, Pennsylvania and Tullytown Landfill, Tullytown, Pennsylvania. Excavations varied in depths from two inches to seven feet.

In areas where the preliminary post excavation sample results exceeded 25 mg/kg, additional soil was removed and another soil sample was collected until the clean-up goal was attained.

The excavation was backfilled with certified clean fill and graded with top soil. Following grading, the area was seeded and the wetlands were restored with geotextile, riprap, and trees for erosion control. Restoration activities were completed on August 5, 1998.

Fifty-four post excavation samples, including three duplicate samples, were submitted for analysis to verify that the site cleanup goal was achieved. Four sediment samples were collected to the north of the site by the outfall of the culvert pipe on the other side of Route 17M. Additionally, a sample of white material was collected on the south side of the road, between the area of excavation east to the location of the temporary office trailer. These samples all revealed mercury levels below the cleanup level.

The following were the samples utilized as clean post excavation samples:

- Perimeter post excavation samples: PX-6, AC-2, C-3, PX-3, I4C, M4A, PX-11, PX-14, PX-12, PX-21, PX-49, Q-1, PX-29, PX-24, and PX-27.
- Sidewall post excavation samples:AC-2D, C-3D, I4C-D, M4A-D, Q-1D, PX-25, PX-28, PX-30, and PX-31 (duplicate of PX-30).
- Bottom post excavation samples: PX-1, PX-2 (duplicate of PX-1), PX-4, PX-5, PX-8, PX-9, PX-10, PX-13, PX-15, PX-16, PX-17, PX-18, PX-19, PX-20, PX-26, PX-32, PX-36 (N), PX-37, PX-38, PX-39 (V), PX-40 (duplicate of PX-39 (V)), PX-41 (T), PX-43, PX-44 (F), PX-45 (L), SCR-2, SCR-3, PX-46, PX-50, A, B, C, D, E, G, H, I, J, K, M, O, P, Q, R, S, U, and W.

Samples PX-47 and PX-48 were collected at depth at the same location as PX-46, but at 1 foot incremental depths, respectively. Since PX-46 showed mercury levels below the cleanup goal, (prior to be being rejected) PX-47 and PX-48 were not analyzed.

The mercury concentration range for the acceptable data collected from March 13, 1998 - July 24, 1998 was from 0.05 mg/kg - 16.8 mg/kg. The following samples exceeded the cleanup level: PX-7 (54 mg/kg), PX-22 (26.9 mg/kg), PX-23 (24.8 mg/kg), PX-32 (419 mg/kg), PX-33A (232 mg/kg), PX-34 (28.2 mg/kg), PX-35 (76.4 mg/kg), PX-42 (35 mg/kg), and SCR-1 (38.4 mg/kg). Sample PX-32 was left in place due to its close proximity to the sewer line running adjacent to Route 17M. The property owner and town were notified of the elevated levels remaining in the area of PX-32. EPA recommended that proper precautions be taken to protect workers in the event that repairs to the sewer line or roadway are necessary. The sample was collected at a depth of 3.6 feet.

4.0 REFERENCES

Roy F. Weston, Inc. 1998. Post Excavation Sampling Plan for the Pyridium Mercury Disposal Site. Report prepared for the U.S. EPA Region II under contract 68-W5-0019. START DCN 02-F-01812.

Roy F. Weston, Inc. 1999. Final Report for the Pyridium Mercury Disposal Site. Report prepared for the U.S. EPA/ERTC under contract 68-C4-0022. April 1999

USEPA. 1998. Pyridium Mercury Disposal Site Data Salvage. Memo from Hanif Sheikh, Hazardous Waste Support Section, to Irmee Huhn, Removal Section. October 23, 1998

ATTACHMENT A

100257

TEST PIT SAMPLE DESCRIPTION SUMMARY
PYRIDIUM MERCURY DISPOSAL SITE NO. 1
HARRIMAN, ORANGE COUNTY, NEW YORK
TABLE 1

SAMPLE NO.	DATE (TIME)	DEPTH	DESCRIPTIONS	Hg Conc. (mg/kg)
TP-1 *	05/04/98 (1345)	5 - 5.5'	Black decomposed sand, some organic, sulfur odor.	8.3
TP-3	05/04/98 (1430)	2.5 - 3'	Gray medium to fine sand, trace gravel.	11.6
TP-4	05/04/98 (1445)	2.5 - 3'	Gray medium to fine sand, trace gravel and silt.	67.2
TP-5	05/04/98 (1510)	2.5 - 3'	Brownish gray medium to fine sand, trace silt.	0.95
TP-6	05/04/98 (1530)	4 - 4.5'	Brown medium to fine sand, trace silt.	0.15
TP-7	05/04/98 (1555)	2.5 - 3'	Gray medium to fine sand, trace silt.	9.4
TP-8	05/04/98 (1610)	4 - 4.5'	Brown medium to fine sand, trace silt. (MS/MSD)	3.8
TP-9	05/04/98 (1620)	4 - 4.5'	Duplicate of TP-8	3.8

* No Sample collected from TP-2.

ATTACHMENT B

100259

POST EXCAVATION SAMPLE DESCRIPTION SUMMARY
PYRIDIUM MERCURY DISPOSAL SITE NO. 1
HARRIMAN, ORANGE COUNTY, NEW YORK
TABLE 2

SAMPLE NO.	DATE (TIME)	DEPTH	LOCATION	COORD.	DESCRIPTIONS	Hg Conc. (mg/kg)
PX-1	05/06/98 (1520)	1.5'	76' SW of the E/W 00 benchmark axis and 186.2' NW of the N/S 00 benchmark axis	(76,186.2)	Brown in color with no odor or visible contamination.	5.58 (R)
PX-2	05/06/98 (1515)	1.5'	76' SW of the E/W 00 benchmark axis and 186.2' NW of the N/S 00 benchmark axis	(76,186.2)	Duplicate sample of PX-1	6.34 (R)
PX-3	05/06/98 (1530)	8"	156.6' SW of the E/W 00 benchmark axis and 136.2' NW of the N/S 00 benchmark axis	(156.6, 136.2)	Brown in color with no odor or visible contamination.	2.29 (R)
PX-4	05/06/98 (1540)	1.5'	168.8' SW of the E/W 00 benchmark axis and 113.1' NW of the N/S 00 benchmark axis	(168.8, 113.1)	Brown in color with no odor or visible contamination.	0.835 (R)
PX-5	05/07/98 (0920)	1.5'	31.1' SW of the E/W 00 benchmark axis and 190' NW of the N/S 00 benchmark axis	(31.1, 190)	Brown in color with no odor or visible contamination.	0.065 (R)
PX-6	05/07/98 (0930)	1.5'	24' SW of the E/W 00 benchmark axis and 201.8' NW of the N/S 00 benchmark axis	(24, 201.8)	Brown in color with no odor or visible contamination.	6.90 (R)
PX-7	05/18/98 (1630)	5.0'	178.7' SW of the E/W 00 benchmark axis and 49.1' NW of the N/S 00 benchmark axis	(178.7, 49.1)	Medium brown in color with no odor or visible contamination.	54.00
PX-8	05/20/98 (1500)	5.0'	116.8' SW of the E/W 00 benchmark axis and 136.2' NW of the N/S 00 benchmark axis	(116.8, 136.2)	Medium brown in color with no odor or visible contamination.	2.35
RD-1	05/22/98 (0900)	0-1"	80.6' SW of the N/S 00 benchmark axis and 1.8' NW of the E/W 00 benchmark axis	(80.6, 1.8)	Sediment sample of white residue on SW side of Rt. 17M	0.05
PX-9	05/22/98 (1130)	4.0'	159.3' SW of the E/W 00 benchmark axis and 88.2' NW of the N/S 00 benchmark axis	(159.3, 88.2)	Brown in color with no odor or visible contamination.	2.60

SAMPLE NO.	DATE (TIME)	DEPTH	LOCATION	COORD.	DESCRIPTIONS	Hg Conc. (mg/kg)
PX-10	05/27/98 (1130)	3.5'	150' SW of the E/W 00 benchmark axis and 13.2' NW of the N/S 00 benchmark axis	(150, 13.2)	Brown in color with no odor or visible contamination.	3.78
PX-11	05/27/98 (1400)	1.9'	180.6' SW of the E/W 00 benchmark axis and 28.7' NW of the N/S 00 benchmark axis	(180.6, 28.7)	Brown in color with no odor or visible contamination.	1.05
PX-12	05/27/98 (1430)	4.0'	151' SW of the E/W 00 benchmark axis and 1.8' NW of the N/S 00 benchmark axis	(151, 1.8)	Brown in color with no odor or visible contamination.	2.89
SED-1	05/27/98 (1445)	0-2"	0.9' perp. to outfall of the culvert pipe ridge, 5.6' parallel of north edge of the culvert pipe	(0.9, 5.6) #	Dark brown and black sediments, collected under water, very wet	2.56
PX-13	05/29/98 (0830)	6'	178.7' SW of the E/W 00 benchmark axis and 49.1' NW of the N/S 00 benchmark axis	(178.7, 49.1)	Wet, medium brown in color with no odor or visible contamination.	<0.04
PX-14	05/29/98 (1520)	2-3"	166.8' SW of the E/W 00 benchmark axis and 1.8' NW of the N/S 00 benchmark axis	(166.8, 1.8)	Dark brown in color with no odor or visible contamination.	14.7
PX-15	06/05/98 (1100)	2-4"	110.4' SW of the E/W 00 benchmark axis and 14' NW of the N/S 00 benchmark axis	(110.4, 14)	Brown in color with no odor or visible contamination.	10.7
PX-16	06/08/98 (1600)	4.0'	144.4' SW of the 100' marker on the E/W axis and 93' NW of the 100' N/S axis	(144.4, 93)	Wet, medium brown in color with no odor or visible contamination	5.06
PX-17	06/09/98 (1600)	2-3"	41.2' SW of the E/W 00 benchmark axis and 180.6' NW of the N/S 00 benchmark axis	(41.2, 180.6)	Brown in color with no odor or visible contamination	0.69
PX-18	06/10/98 (1600)	3.5'	101' SW of the E/W 00 benchmark axis and 32.5' NW of the N/S 00 benchmark axis	(101, 32.5)	Very wet, brown in color with no odor or visible contamination	16.80
PX-19	06/10/98 (1830)	6"	63.5' SW of the E/W 00 benchmark axis and 76.8' NW of the N/S 00 benchmark axis	(63.5, 76.8)	Medium brown in color with no odor or visible contamination	1.36

SAMPLE NO.	DATE (TIME)	DEPTH	LOCATION	COORD.	DESCRIPTIONS	Hg Conc. (mg/kg)
SCR-1	06/10/98 (1830)	3.5'	75' SW of the E/W 00 benchmark axis and 101.8' NW of the N/S 00 benchmark axis	(75, 101.8)	Dark brown/black in color, "strong rotten egg like" odor	38.40
PX-20	06/16/98 (1830)	4.0'	126.9' SW of the E/W 00 benchmark axis and 113.2' NW of the N/S 00 benchmark axis	(126.9, 113.2)	Very wet, brown in color with no odor or visible contamination	0.148
SCR-2	06/16/98 (1845)	3.5-4.0'	126.9' SW of the E/W 00 benchmark axis and 126.9' NW of the N/S 00 benchmark axis	(126.9, 126.9)	Dark brown/black in color, "strong rotten egg like" odor	5.90
PX-21	06/19/98 (1405)	0-2"	101.9' SW of the E/W 00 benchmark axis and 0.5' NW of the N/S 00 benchmark axis	(101.9, 0.5)	Medium brown in color with no odor or visible contamination	1.38
PX-22	06/19/98 (1410)	0-2"	67.5' SW of the E/W 00 benchmark axis and 9.5' NW of the N/S 00 benchmark axis	(67.5, 9.5)	Medium brown in color with no odor or visible contamination	26.90
PX-23	06/19/98 (1415)	6-8"	63.2' SW of the E/W 00 benchmark axis and 26.9' NW of the N/S 00 benchmark axis	(63.2, 26.9)	Medium brown in color with no odor or visible contamination	24.80
SCR-3	06/19/98 (1530)	3.5'	75' SW of the E/W 00 benchmark axis and 98.2' NW of the N/S 00 benchmark axis	(75, 98.2)	Dark brown/black in color, "strong rotten egg like" odor	5.42
PX-24	06/24/98 (0900)	1.2'	18.8' SW of the E/W 00 benchmark axis and 100' NW of the N/S 00 benchmark axis	(18.8, 100)	Brown in color with no odor or visible contamination	0.24
PX-25	06/24/98 (0910)	5.10'	18.8' SW of the E/W 00 benchmark axis and 100' NW of the N/S 00 benchmark axis	(18.8, 100)	Brown in color with no odor or visible contamination	1.09
PX-26	06/24/98 (0920)	7.0'	22.5' SW of the E/W 00 benchmark axis and 94.4' NW of the N/S 00 benchmark axis	(22.5, 94.4)	Brown in color with no odor or visible contamination	9.91
PX-27	06/24/98 (1100)	1.4'	18.8' SW of the E/W 00 benchmark axis and 150' NW of the N/S 00 benchmark axis	(18.8, 150)	Brown in color with no odor or visible contamination	15.8
PX-28	06/24/98 (1105)	3.6'	18.8' SW of the E/W 00 benchmark axis and 150' NW of the N/S 00 benchmark axis	(18.8, 150)	Brown in color with no odor or visible contamination	8.20

SAMPLE NO.	DATE (TIME)	DEPTH	LOCATION	COORD.	DESCRIPTIONS	Hg Conc. (mg/kg)
PX-29	06/24/98 (1530)	1.4'	20.4' SW of the E/W 00 benchmark axis and 74.1' NW of the N/S 00 benchmark axis	(20.4, 74.1)	Brown in color with no odor or visible contamination (MS/MSD)	0.19
PX-30	06/24/98 (1535)	3.6'	20.4' SW of the E/W 00 benchmark axis and 74.1' NW of the N/S 00 benchmark axis	(20.4, 74.1)	Brown in color with no odor or visible contamination.	0.25
PX-31	06/24/98 (1540)	3.6'	20.4' SW of the E/W 00 benchmark axis and 74.1' NW of the N/S 00 benchmark axis	(20.4, 74.1)	Duplicate sample of PX-30	0.71
PX-32	06/24/98 (1545)	3.6'	18.6' SW of the E/W 00 benchmark axis and 70' NW of the N/S 00 benchmark axis	(18.6, 70)	Whitish grey paste-like material collected near sewer pipe	419
PX-33	06/26/98 (1225)	5.0'	85.2' SW of the E/W 00 benchmark axis and 85' NW of the N/S 00 benchmark axis	(85.2, 85)	Black material w/rotten egg odor	4.20 (R)
PX-33A	06/26/98 (1230)	5.6'	85.2' SW of the E/W 00 benchmark axis and 85' NW of the N/S 00 benchmark axis	(85.2, 85)	Black material w/rotten egg odor	R
PX-34	06/26/98 (1255)	5.6'	91.1' SW of the E/W 00 benchmark axis and 125' NW of the N/S 00 benchmark axis	(91.1, 125)	Dark grey/brown soil/clay material	28.2 (R)
PX-35	06/26/98 (1310)	5.5'	96.7' SW of the E/W 00 benchmark axis and 148.1' NW of the N/S 00 benchmark axis	(96.7, 148.1)	Dark grey/brown soil/clay material	R
PX-36	06/26/98 (1340)	6.0'	48.2' SW of the E/W 00 benchmark axis and 73.8' NW of the N/S 00 benchmark axis	(48.2, 73.8)	Dark grey/brown soil/clay material	0.88 (R)
PX-37	06/26/98 (1406)	6.2'	52.2' SW of the E/W 00 benchmark axis and 98.2' NW of the N/S 00 benchmark axis	(52.2, 98.2)	Dark grey/brown soil/clay material	<0.09 (R)
PX-38	06/26/98 (1428)	7.0'	51.8' SW of the E/W 00 benchmark axis and 123.2' NW of the N/S 00 benchmark axis	(51.8, 123.2)	Dark grey/brown soil/clay material	<0.10 (R)
PX-39	06/29/98 (1100)	1.2'	61.8' SW of the E/W 00 benchmark axis and 13.1' NW of the N/S 00 benchmark axis	(61.8, 13.1)	Brown in color with no odor or visible contamination	R

SAMPLE NO.	DATE (TIME)	DEPTH	LOCATION	COORD.	DESCRIPTIONS	Hg Conc. (mg/kg)
PX-40	06/29/98 (1120)	1.2'	61.8' SW of the E/W 00 benchmark axis and 13.1' NW of the N/S 00 benchmark axis	(61.8, 13.1)	Duplicate sample of PX-39 and MS/MSD volume	R
PX-41	06/29/98 (1130)	0-2"	29' SW of the E/W 00 benchmark axis and 27' NW of the N/S 00 benchmark axis	(29, 27)	Medium brown/rust colored sediment	R
PX-42	06/29/98 (1140)	6"	9.3' SW of the E/W 00 benchmark axis and 23.4' NW of the N/S 00 benchmark axis	(9.3, 23.4)	Black sediment with no odor, collected under water	R
PX-43	06/30/98 (1530)	6.2'	91.1' SW of the E/W 00 benchmark axis and 125' NW of the N/S 00 benchmark axis	(91.1 , 125)	Dark grey/brown soil/clay material	<0.12 (R)
PX-44	06/30/98 (1540)	6.4'	96.7' SW of the E/W 00 benchmark axis and 148.1' NW of the N/S 00 benchmark axis	(96.7, 148.1)	Dark grey/brown soil/clay material	<0.11 (R)
PX-45	06/29/98 (1430)	1.2'	85.2' SW of the E/W 00 benchmark axis and 76.3' NW of the N/S 00 benchmark axis	(85.2, 76.3)	Dark grey/brown clay material with no odor	0.09 (R)
PX-46	07/07/98 (0900)	1.5'	9.3' SW of the E/W 00 benchmark axis and 23.4' NW of the N/S 00 benchmark axis	(9.3, 23.4)	Wet black soil/sediment with no odor, collected under water	7.13
PX-47	07/07/98 (0920)	2.5'	9.3' SW of the E/W 00 benchmark axis and 23.4' NW of the N/S 00 benchmark axis	(9.3, 23.4)*	Wet black soil/sediment with no odor, collected under water	Not analyzed*
PX-48	07/07/98 (0930)	3.5'	9.3' SW of the E/W 00 benchmark axis and 23.4' NW of the N/S 00 benchmark axis	(9.3, 23.4)*	Wet black soil/sediment with no odor, collected under water	Not analyzed*
PX-49	7/16/98 (0815)	0-2"	67.5' SW of the E/W 00 benchmark axis an 3' NW of the N/S 00 benchmark axis	(67.5, 3)	Medium brown in color with no odor or contamination	12.90
PX-50	7/21/98 (1500)	1.0'	9.3' SW of the E/W 00 benchmark axis and 23.4' NW of the N/S 00 benchmark axis	(9.3, 23.4)	Wet black soil/sediment with no odor, collected under water	2.91
SED-2	7/22/98 (0935)	0-2"	2.6' perp. to outfall of the culvert pipe ridge, 1.5' parallel of north edge of the culvert pipe	(2.6, 1.5)#	Soft and wet dark brown soil/sludge material	8.74

SAMPLE NO.	DATE (TIME)	DEPTH	LOCATION	COORD.	DESCRIPTIONS	Hg Conc. (mg/kg)
SED-3	7/22/98 (0940)	0-2"	3.2' perp. to outfall of the culvert pipe ridge, 4.9' parallel of north edge of the culvert pipe	(3.2, 4.9)#	Soft and wet dark brown soil/sludge material	5.96
SED-4	7/22/98 (0945)	0-2"	2.5' perp. to outfall of the culvert pipe ridge, 2.1' parallel of north edge of the culvert pipe	(2.5, 2.1)#	Wet black soil/sediment with no odor, collected under water	2.42

Notes:

(R) - Analytical results were originally rejected, however, a second review of the data indicated that the results for these samples were usable for the intended purpose. The data was accepted based on mathematical corrections determined by the matrix spike recovery for those samples.

* - Analytical results for PX-46 and PX-50 indicated levels of Hg below EPA established clean-up goals. Therefore, samples PX-47 and PX-48 collected at the same location at depths of 2.5' and 3.5', respectively, were not analyzed.

- Coordinates for samples SED-1 thru SED-4 presented in the above table do not correspond to the X and Y axis established on the Pyridium Site. See Figure 2.

ATTACHMENT C

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POST EXCAVATION SAMPLE DESCRIPTION SUMMARY (REAC)
PYRIDIUM MERCURY DISPOSAL SITE NO. 1
HARRIMAN, ORANGE COUNTY, NEW YORK
TABLE 3

SAMPLE NO.	DATE	DEPTH	LOCATION	COORD.	DESCRIPTIONS	Hg Conc. (mg/kg)
A	02/09/99	3'	37.5' SW of the E/W 00 benchmark axis and 160' NW of the N/S 00 benchmark axis	(37.5,160)	Brown in color with no odor or visible contamination.	U
B	02/09/99	5'	62.5' SW of the E/W 00 benchmark axis and 162.5' NW of the N/S 00 benchmark axis	(62.5, 162.5)	Brown in color with no odor or visible contamination	U
C	02/09/99	2'	90' SW of the E/W 00 benchmark axis and 165' NW of the N/S 00 benchmark axis	(90, 165)	Brown in color with no odor or visible contamination.	U
C DUP	02/09/99	2'	90' SW of the E/W 00 benchmark axis and 165' NW of the N/S 00 benchmark axis	(90, 165)	Brown in color with no odor or visible contamination.	0.12
D	02/09/99	6'	37.5' SW of the E/W 00 benchmark axis and 137.5' NW of the N/S 00 benchmark axis	(37.5, 137.5)	Brown in color with no odor or visible contamination.	U
E	02/09/99	6'	62.5' SW of the E/W 00 benchmark axis and 137.5' NW of the N/S 00 benchmark axis	(62.5, 137.5)	Brown in color with no odor or visible contamination.	U
F	02/09/99	6'	87.5' SW of the E/W 00 benchmark axis and 137.5' NW of the N/S 00 benchmark axis	(87.5, 137.5)	Brown in color with no odor or visible contamination.	U
G	02/09/99	9'	45' SW of the E/W 00 benchmark axis and 112.5' NW of the N/S 00 benchmark axis	(45, 112.5)	Brown in color with no odor or visible contamination.	U
H	02/09/99	6'	70' SW of the N/S 00 benchmark axis and 112.5' NW of the E/W 00 benchmark axis	(70, 112.5)	Brown in color with no odor or visible contamination.	U
H DUP	02/09/99	6'	70' SW of the E/W 00 benchmark axis and 112.5' NW of the N/S 00 benchmark axis	(70, 112.5)	Brown in color with no odor or visible contamination.	0.23

SAMPLE NO.	DATE	DEPTH	LOCATION	COORD.	DESCRIPTIONS	Hg Conc. (mg/kg)
I	02/09/99	6'	100' SW of the E/W 00 benchmark axis and 112.5' NW of the N/S 00 benchmark axis	(100, 112.5)	Brown in color with no odor or visible contamination.	6.5
J	02/09/99	4'	37.5' SW of the E/W 00 benchmark axis and 87.5' NW of the N/S 00 benchmark axis	(37.5, 87.5)	Brown in color with no odor or visible contamination.	U
K	02/09/99	3'	60' SW of the E/W 00 benchmark axis and 87.5' NW of the N/S 00 benchmark axis	(60, 87.5)	Brown in color with no odor or visible contamination.	U
L	02/09/99	6'	87.5' SW of the E/W 00 benchmark axis and 87.5' NW of the N/S 00 benchmark axis	(87.5, 87.5)	Brown in color with no odor or visible contamination	U
M	02/09/99	4'	112.5' SW of the E/W 00 benchmark axis and 80' NW of the N/S 00 benchmark axis	(112.5, 80)	Brown in color with no odor or visible contamination.	U
N	02/09/99	4'	37.5' SW of the E/W 00 benchmark axis and 62.5' NW of the N/S 00 benchmark axis	(37.5, 62.5)	Brown in color with no odor or visible contamination.	U
O	02/09/99	7'	62.5' SW of the E/W 00 benchmark axis and 62.5' NW of the N/S 00 benchmark axis	(62.5, 62.5)	Brown in color with no odor or visible contamination.	0.47
P	02/09/99	4'	87.5' SW of the E/W 00 benchmark axis and 50' NW of the N/S 00 benchmark axis	(87.5, 50)	Brown in color with no odor or visible contamination	U
Q	02/09/99	4'	120' SW of the E/W 00 benchmark axis and 60' NW of the N/S 00 benchmark axis	(120, 60)	Brown in color with no odor or visible contamination	U
R	02/09/99	6'	140' SW of the E/W 00 benchmark axis and 60' NW of the N/S 00 benchmark axis	(140, 60)	Brown in color with no odor or visible contamination	0.41
S	02/09/99	6'	167.5' SW of the E/W 00 benchmark axis and 62.5' NW of the N/S 00 benchmark axis	(167.5, 62.5)	Brown in color with no odor or visible contamination	0.67
T	02/09/99	6'	30' SW of the E/W 00 benchmark axis and 25' NW of the N/S 00 benchmark axis	(30, 25)	Brown in color with no odor or visible contamination	U

SAMPLE NO.	DATE	DEPTH	LOCATION	COORD.	DESCRIPTIONS	Hg Conc. (mg/kg)
U	02/09/99	6'	130' SW of the E/W 00 benchmark axis and 30' NW of the N/S 00 benchmark axis	(130, 30)	Brown in color with no odor or visible contamination	0.33
V	02/09/99	4'	62.5' SW of the E/W 00 benchmark axis and 12.5' NW of the N/S 00 benchmark axis	(62.5, 12.5)	Brown in color with no odor or visible contamination	1.7
W	02/09/99	2.5'	130' SW of the E/W 00 benchmark axis and 62' NW of the N/S 00 benchmark axis	(130, 62)	Brown in color with no odor or visible contamination	U

ATTACHMENT D

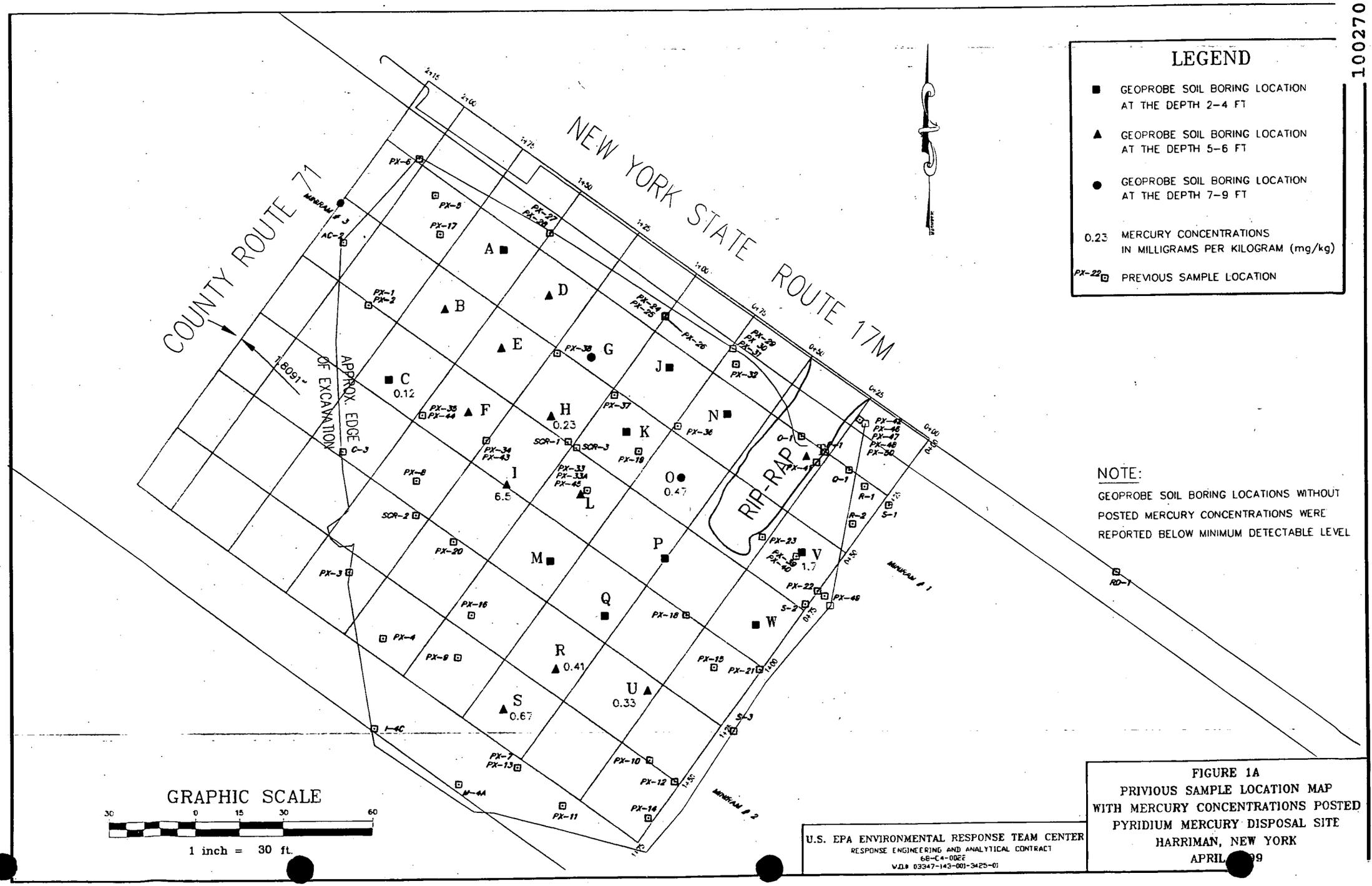

FIGURE 1A
PRIVIOUS SAMPLE LOCATION MAP
WITH MERCURY CONCENTRATIONS POSTED
PYRIDIUM MERCURY DISPOSAL SITE
HARRIMAN, NEW YORK
APRIL 1999

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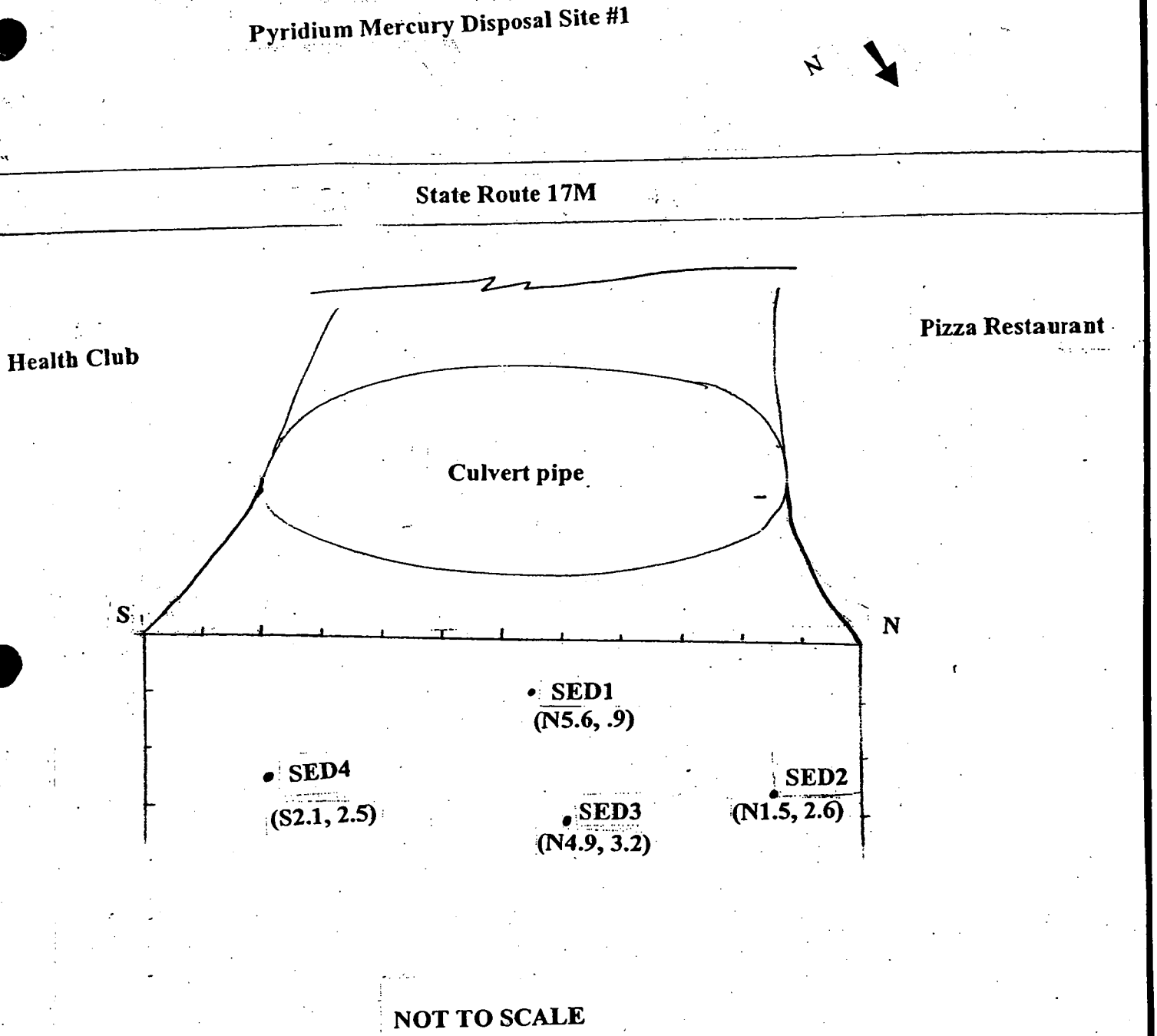
ATTACHMENT E



WESTON MANAGERS DESIGNERS/CONSULTANTS Roy F. Weston, Inc. FEDERAL PROGRAMS DIVISION	EPA OSC I. Huhn	Pyridium Mercury Disposal Site #1 Harriman, NY July 1998
IN ASSOCIATION WITH INLAND POLLUTION P.R., INC, RESOURCE APPLICATIONS, INC., AND GRB ENVIRONMENTAL SERVICES, INC.	RST Site PM R. Salzhauer	Figure 2: Sediment Sample Location Map

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ATTACHMENT F

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DATE: 16 April 1999

TO: George Prince, U.S. EPA/ERTC Work Assignment Manager

THROUGH: Edward F. Gilardi, REAC Program Manager Marc Huston

FROM: Michael Chilek, REAC Task Leader

SUBJECT: DOCUMENT TRANSMITTAL UNDER WORK ASSIGNMENT 3-425

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

FINAL REPORT
PYRIDIUM MERCURY DISPOSAL SITE
HARRIMAN, NY
APRIL 1999

cc: Central File - WA 3-425 (w/attachment)
Edward F. Gilardi, REAC Program Manager (w/o attachment)

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FINAL REPORT
PYRIDIUM MERCURY DISPOSAL SITE
HARRIMAN, NY
APRIL 1999

EPA Work Assignment No.: 3-425
WESTON Work Order No.: 03347-143-001-3425-01
EPA Contract No.: 68-C4-0022

Prepared by:

Roy F. Weston, Inc./REAC

Michael Chilek
REAC Task Leader

4/16/99
Date

Edward F. Gilardi
REAC Program Manager

4/16/99
Date

Prepared for:

U.S. EPA/ERTC

George Prince
Work Assignment Manager

The following REAC personnel significantly contributed to field activities: Jessica Levine and Chris Agnew.

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FIGURE 1 Sample Location Map

APPENDICES

Appendix A Analytical Report

1.0 INTRODUCTION

1.1 Objectives

The United States Environmental Protection Agency/Environmental Response Team Center (U.S. EPA/ERTC) Work Assignment Manager (WAM) George Prince, tasked personnel from the Response Engineering and Analytical Contract (REAC) to conduct a post removal confirmation soil sampling and analysis effort at the Pyridium Mercury Disposal site in Harriman, New York.

1.2 Site Background

The Pyridium Mercury Disposal site is located on one acre in the town of Harriman, Orange County, New York, at the intersection of New York State Route 17M and County Route 71 (Harriman Heights Road). The site is bordered on the northwest by Superior Shiftworks, on the northeast by New York State Route 17M, on the southeast by wetlands, and on the southwest by residential properties.

The New York State Department of Environmental Conservation (NYSDEC) had previously notified the New York Department of Health of a potential health threat at the Pyridium Mercury Disposal site. Sample analysis of a white clay-like material revealed mercury at a concentration of 238 milligrams per kilogram (mg/kg). The white clay-like material was a filter cake from an industrial process used to fill in wet areas on the site. Additional sampling at the site confirmed the presence of mercury in concentrations ranging from 0.643 mg/kg to 657 mg/kg. Laboratory results concluded that the material was contaminated with an inorganic mercury salt. The contaminated material on site was excavated, removed, and replaced with clean fill.

2.0 METHODOLOGY

Post excavation soil sampling at the Pryidium Mercury Disposal Site was conducted on 9 February 1999. A reference grid was established for the USEPA/ERTC by the U.S. EPA On-Scene Coordinator (OSC) prior to arrival of REAC personnel.

A total of 23 borings, identified as A thru V, were advanced using a Geoprobe™ sampling device, to a maximum depth of 9 feet (ft) (Figure 1). One or two soil samples were collected at each location at various depths, depending upon the boundary between the fill and natural material. Samples were collected using a dedicated acetate sleeve and stainless steel spoon, and placed into an appropriate sample jar. A total of 29 samples, including two duplicates and one field blank, were collected and analyzed for mercury (Appendix A).

3.0 RESULTS AND CONCLUSIONS

Post excavation soil sampling analysis for the Pyridium Mercury Disposal site resulted in 8 of the 23 locations having detectable levels of mercury (Table 1). Spatial distribution of locations with detectable mercury levels in the horizontal plane were concentrated in the southern half of the site, which contained six of the eight locations having detectable levels of mercury. The vertical profile revealed that five of the eight locations with detectable mercury levels occurred at a depth of 6 ft. The greatest detected mercury level 6.5 (mg/kg) at location 1, was collected at a depth of 6 ft. Overall, mercury was not found in high concentrations with in the soil.

Tables

99P-0730

TABLE 1
Results of the Analysis for Mercury in Soil
Pyridium Mercury Disposal Site
Harriman, New York
APRIL 1999

Location ID	Sample Depth (feet)	Mercury Concentration mg/kg	Mercury MDL mg/kg
W	2.5	U	0.11
U	6	0.33	0.11
S	6	0.67	0.11
R	6	0.41	0.11
Q	4	U	0.11
P	4	U	0.10
O	7	0.47	0.14
N	4	U	0.11
T	6	U	0.12
M	4	U	0.11
L	6	U	0.11
J	4	U	0.11
K	3	U	0.11
I	6	6.5	0.52
V	4	1.7	0.12
H	6	U	0.10
H	6 (DUP)	0.23	0.11
G	9	U	0.10
F	6	U	0.097
A	3	U	0.10
B	5	U	0.11
D	6	U	0.11
E	6	U	0.11
C	2	U	0.12
C	2 (DUP)	0.12	0.11
Field Blank	-	U	0.10

mg/kg milligrams per kilogram
MDL minimum detectable level

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Figures

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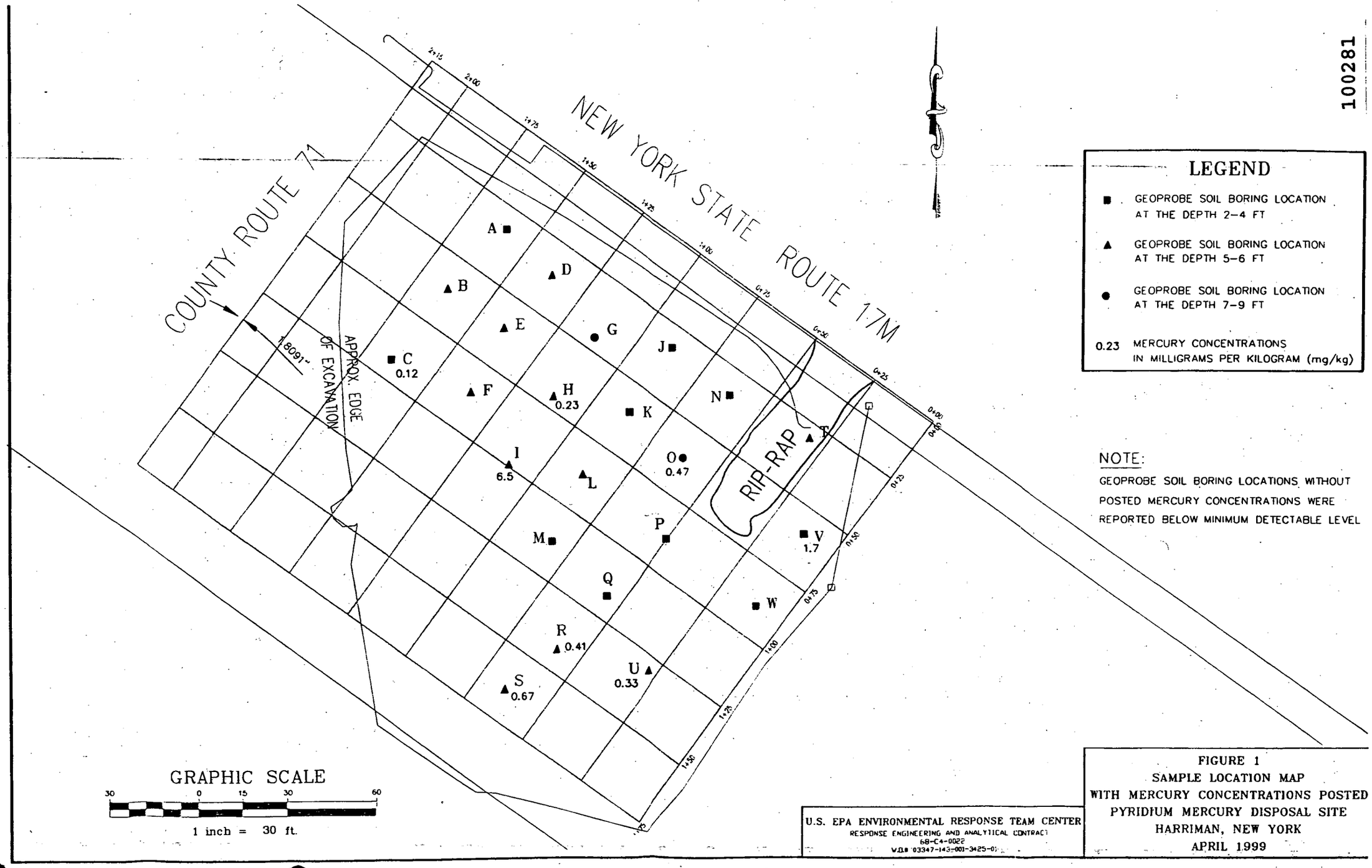

LEGEND

- ■ GEOPROBE SOIL BORING LOCATION AT THE DEPTH 2–4 FT
- ▲ GEOPROBE SOIL BORING LOCATION AT THE DEPTH 5–6 FT
- ● GEOPROBE SOIL BORING LOCATION AT THE DEPTH 7–9 FT
- 0.23 MERCURY CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (mg/kg)

NOTE:

GEOPROBE SOIL BORING LOCATIONS WITHOUT POSTED MERCURY CONCENTRATIONS WERE REPORTED BELOW MINIMUM DETECTABLE LEVEL

U.S. EPA ENVIRONMENTAL RESPONSE TEAM CENTER
RESPONSE ENGINEERING AND ANALYTICAL CONTRACT
68-C4-0022
W.O.# 03347-143-001-3425-01

FIGURE 1
SAMPLE LOCATION MAP
WITH MERCURY CONCENTRATIONS POSTED
PYRIDIUM MERCURY DISPOSAL SITE
HARRIMAN, NEW YORK
APRIL 1999

Appendix A

ANALYTICAL REPORT

Prepared by
Roy F. Weston, Inc.

Pyridium Mercury Disposal Site
Harriman, NY

March 1999

EPA Work Assignment No. 3-425
WESTON Work Order No. 03347-143-001-3425-01
EPA Contract No. 68-C4-0022

Submitted to
G. Prince
EPA-ERTC

M. Chilek Task Leader	3/11/99 Date	Analysis by: Accutest
V. Kansal Analytical Section Leader	3/12/99 Date	Prepared by: G. Karustis
E. Gilardi Program Manager	3/12/99 Date	Reviewed by: M. Barkley

3425\DEL\AR\9903\REPORT

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Appendix will be furnished on request.

Introduction

REAC, in response to WA 3-425, provided analytical support for environmental samples collected from Pyridium Mercury Disposal Site located in Harriman, NY as described in the following table. The support also included QA/QC, data review, and preparation of an analytical report containing a summary of the analytical methods, the results, and the QA/QC results.

COC #	Number of Samples	Sampling Date	Date Received	Matrix	Analysis	Laboratory
07135	20	2/9/99	2/10/99	Soil	Mercury	Accutest
07136	9	2/9/99	2/10/99	Soil	Mercury	Accutest

Case Narrative

The data in this report have been validated to two significant figures. Any other representation of the data is the responsibility of the user.

Mercury in Soil Package I 036

The samples that were designated on chain of custody 07136 for the matrix spike analysis were not used. Instead, the subcontract laboratory used other REAC samples for the matrix spike analysis.

Summary of Abbreviations

AA	Atomic Absorption
B	The analyte was found in the blank
BFB	Bromofluorobenzene
C	Centigrade
D	(Surrogate Table) this value is from a diluted sample and was not calculated (Result Table) this result was obtained from a diluted sample
Dioxin	denotes Polychlorinated Dibenzo-p-dioxins and Polychlorinated Dibenzofurans and/or
PCDD	and PCDF
CLP	Contract Laboratory Protocol
COC	Chain of Custody
CONC	Concentration
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
DFTPP	Decafluorotriphenylphosphine
DL	Detection Limit
E	The value is greater than the highest linear standard and is estimated
EMPC	Estimated maximum possible concentration
ICAP	Inductively Coupled Argon Plasma
ISTD	Internal Standard
J	The value is below the method detection limit and is estimated
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MDL	Method Detection Limit
MI	Matrix Interference
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MW	Molecular Weight
NA	either Not Applicable or Not Available
NC	Not Calculated
NR	Not Requested
NS	Not Spiked
% D	Percent Difference
% REC	Percent Recovery
PPB	Parts per billion
PPBV	Parts per billion by volume
PQL	Practical Quantitation Limit
QL	Quantitation Limit
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
SIM	Selected Ion Monitoring
TCLP	Toxic Characteristics Leaching Procedure
U	Denotes not detected
W	Weathered sample; the results should be regarded as estimated

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

*	denotes a value that exceeds the acceptable QC limit
	Abbreviations that are specific to a particular table are explained in footnotes on that table

Revision 7/23/98

Analytical Procedure for Mercury in Soil

The subcontract laboratory determined the mercury concentration in the samples by analyzing them according to USEPA SW-846 Method 7471 A. The results are listed in Table 1.1.

Table 1.1 Results of the Analysis for Mercury in Soil
WA # 3-425 Pyridium Mercury Disposal Site
(based on dry weight)

Sample ID	Location	% Solids	Mercury Conc mg/kg	Mercury MDL mg/kg
Method Blank	-	100	U	0.10
A17151-W	W-2.5'	86.8	U	0.11
A17152-U	U-6'	86.4	0.33	0.11
A17153-S	S-6'	89.4	0.67	0.11
A17154-R	R-6'	87.1	0.41	0.11
A17155-Q	Q-4'	88.2	U	0.11
A17156-P	P-4'	92.8	U	0.10
A17157-O	O-7'	68.2	0.47	0.14
A17158-N	N-4'	88.3	U	0.11
A17159-T	T-6'	82.3	U	0.12
A17160-M	M-4'	87.6	U	0.11
A17161-L	L-6'	88.4	U	0.11
A17162-J	J-4'	88.5	U	0.11
A17163-K	K-3'	86.5	U	0.11
A17164-I	I-6'	91.7	6.5	0.52
A17165-V	V-4'	79.0	1.7	0.12
A17166-H	H-6'	90.2	U	0.10
A17167-H	H-DUP	87.6	0.23	0.11
A17168-G	G-9'	85.7	U	0.10
A17169-F	F-6'	90.3	U	0.097
A17170-A	A-3'	92.2	U	0.10
A17171-B	B-5'	87.3	U	0.11
A17172-D	D-6'	80.8	U	0.11
A17173-E	E-6'	88.3	U	0.11
A17175-C	C-2'	85.5	U	0.12
A17176-C	C-DUP	86.6	0.12	0.11
A17179-FB	FB	99.9	U	0.10

QA/QC for Mercury

Results of the Matrix Spike Analysis for Mercury in Soil

Samples A 17152-U and a 17156-P were chosen for the matrix spike analysis. The percent recoveries, listed in Table 2.1, were 98 and 100 and both percent recoveries were within the acceptable QC limits.

Results of the Duplicate Analysis for Mercury in Soil

Samples A 17152-U and a 17156-P were chosen for the duplicate analysis. Neither relative percent difference, both listed in Table 2.2, was calculated because, in the case of A 17156-P, the analyte was not detected in either analysis, and in the case of A 17152-U, the analyte was not detected in the duplicate analysis.

Results of the Analysis of the Laboratory Control Sample for Mercury in Soil

The percent recoveries of mercury in the laboratory control sample, listed in Table 2.3, ranged from 73 to 103 and all three percent recoveries were within the acceptable QC limits.

Results of the Blank Spike Analysis for Mercury in Soil

The percent recoveries for the blank spike analysis, listed in Table 2.4, ranged from 99 to 110 and all three percent recoveries were within the acceptable QC limits.

Table 2.1 Results of the Matrix Spike Analysis for Mercury in Soil
WA # 3-425 Pyridium Mercury Disposal Site
(based on dry weight)

Metal	Sample ID	Sample Conc mg/kg	Spike Conc mg/kg	Rec Conc mg/kg	% Rec	QC Limits
Mercury	A 17152-U	0.33	1.2	1.5	98	75-125
Mercury	A 17156-P	U	1.0	1.0	100	75-125

Table 2.2 Results of the Duplicate Analysis
for Mercury in Soil
WA # 3-425 Pyridium Mercury Disposal Site
(based on dry weight)

Analyte	Sample ID	Initial Analysis mg/kg	Duplicate Analysis mg/kg	RPD	QC Limits
Mercury	A 17156-P	U	U	NC	0-20
Mercury	A 17152-U	0.33	U	NC	0-20

Table 2.3 Results of the Analysis of the Laboratory Control Sample for Mercury in Soil WA # 3-425 Pyridium Mercury Disposal Site

Metal	Analyzed Value mg/kg	Certified Value mg/kg	% Rec	Limits mg/kg
Mercury	3.2	4.39	73	68-132
Mercury	4.4	4.39	100	68-132
Mercury	4.5	4.39	103	68-132

Table 2.4 Results of the Blank Spike Analysis
for Mercury in Soil
WA # 3-425 Pyridium Mercury Disposal Site

Metal	Spiked Conc mg/kg	Rec Conc mg/kg	% Rec	QC Limit
Mercury	1	0.99	99	80-120
Mercury	1	1.1	110	80-120
Mercury	1	1	100	80-120

WESTON
MANAGERS DESIGNERS/CONSULTANTS
Roy F. Weston, Inc.
GSA Raritan Depot
Bldg. 209 Annex (Bay F)
2890 Woodbridge Avenue
Edison, New Jersey 08837-3679
732-321-4200 • Fax 732-494-4021

Accutest Labs
Fresh Ponds Corp Village, Bldg B
2235 Route 130
Dayton, NJ 08810

Attn: Matt Cordova

9 February 1999

Project # 3347-143-001-3425 Pyridium Mercury

As per Weston REAC Purchase Order number 101044, please analyze samples according to the following parameters:

Analysis/Method	Matrix	# of samples
Hg\ SW-846-7471A	Soil	40
Data package: Package with Diskette Deliverable		

Samples are expected to arrive at your laboratory on February 11 ,1999. **All applicable QA/QC (MS/MSD) analysis as per method, will be performed on our sample matrix.** Preliminary sample result tables plus a signed copy of our Chain of Custody must be faxed to REAC 10 business days after receipt of the last sample. The complete data package is due 21 business days after receipt of last batch of samples. The complete data package must include all items on the deliverables checklist. **Expect all samples to be difficult matrix and all raw data must be included in final analytical report.**

All sample and QC results(ie: MS/MSD, LCS, Duplicates, and Blanks) must be summarized in a Quattro Pro diskette deliverable.

Please submit all reports and technical questions concerning this project to **John Johnson at (732) 321-4248 or fax to (732) 494-4020.** Any contractual question, please call Cynthia Lentini at (732) 321-4296.

Sincerely,

for Misty Barkley
Data Validation and Report Writing Group Leader
Roy F. Weston, Inc. / REAC Project

MB:jj Attachments

cc. R. Singhvi
G. Prince
3425\non\mem\9902\sub\3425Con
V. Kansal
Subcontracting File
C. Gasser
C. Lentini
J. Levine
M. Barkley

Click to WESTON On The Web http://www.rfweston.com

REAC, . .son, NJ
(908) 321-4200
EPA Contract 68-C4-0022

CHA OF CUSTODY RECORD

Project Name: Pyrolium Mercury Disposal Site
Project Number: 03347-143-001-3485 REAC
RFW Contact: Jessica R Levine Phone: (732) 321-4265

No: 07135

SHEET NO. 1 OF 1

100295

Sample Identification / **Analyses Requested**

REAC #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	Mercury
E45365-1	A17165-V	V-4'	S	2/9/99	1	8oz / 4°C	X
-2	A17151-W	W-2.5'			1		X
-3	A17152-U	U-6'			1		X
-4	A17153-S	S-6'			1		X
-5	A17154-R	R-6'			1		X
-6	A17155-Q	Q-4'			1		X
-7	A17156-P	P-4'			1		X
-8	A17157-O	O-7'			1		X
-9	A17158-N	N-4'			1		X
-10	A17159-T	T-6"			1		X
-11	A17160-M	M-4'			1		X
-12	A17161-L	L-6'			1		X
-13	A17162-J	J-4'			1		X
-14	A17163-K	K-3'			1		X
-15	A17164-I	I-6'			1		X
-16	A17166-H	H-6'			1		X
-17	A17167-H	~~H-6'~~ H-DP			1		X
-18	A17168-G	G-9'			1		X
-19	A17169-F	F-6'			1		X
-20	A17170-A	A-3'			1		X

1036 0033

00011

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X -	Other	SL -	Sludge	A -	Air

Special Instructions: NAG's @ 2/10 TW!

FULL!!

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY #

CHA

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Samples Analysis		2/10/99		2/10/99	1200						

FORM #

RECEIVED AT ACCUTEST AT

8/94

REAC, Edison, NJ
(908) 321-4200
EPA Contract 68-C4-0022

CHAIN OF CUSTODY RECORD

Project Name: Pyrolum Mercury Disposal Site
Project Number: 03347-143-001-3425-01
RFW Contact: Jessica R. Irvine Phone: 732 321 4665

No: 0713E

SHEET NO 2 OF 2

100296

Sample Identification / **Analyses Requested**

REAC #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	Mercury			
EH5365-21	A17171-B	B-5'	S	2/9/99	1	8oz / 4°C	X			
-22	A17172-D	D-6'			1		X			
-23	A17173-E	E-6'			1		X			
-24	A17174-E	MS-D-D			1		X			
-25	A17175-C	C-2'			1		X			
-26	A17176-C	C-D-D			1		X			
-27	A17177-C	C-MS			1		X			
-28	A17178-C	MS-D-D			1		X			
-29	A17179-FB	FB+			1		X			

Special Instructions: NAB's @ 2/10
* use sample A17173-E for MS
+ FB is sand @ 2/10

TW!

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X -	Other	SL -	Sludge	A -	Air

QA [signature] 2/10/99

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Samples/Analysis	[signature]	2/10/99	[signature]	2/10/99	1200		[signature]	2/10/99	[signature]		
CC											
CC											

FORM #4 8/94

00012

1036 0034

ATTACHMENT G

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: OCT 23 1998

SUBJECT: Pyridium Mercury Disposal Site Data Salvage

FROM: Hanif Sheikh, Chemist Hanif Sheikh
Hazardous Waste Support Section (2DESA-HWSB)

TO: Irmee Huhn, On-Scene Coordinator
Removal Section (2ERRD-RAB)

As per your request, I have reviewed the mercury data generated from samples collected at the Pyridium Mercury Disposal site. Fifty seven (57) soil samples were analyzed by Adirondack Environmental Services in accordance with the CLP Statement of Work (SOW), ILM04.0. The data was initially validated by the Weston validator. All mercury results in two Sample Delivery Groups (SDGs) were rejected due to matrix spike recoveries being outside the acceptance limits. The purpose of my review is to determine whether these results can be salvaged as appropriate for the intended use. The action level for the site is 25 ppm. My comments are as follows:

SDG # PX-1 (6 Soil Samples)

1. Results reported by the laboratory for this SDG range from 0.65 ppm to 6.9 ppm.

2. All six sample results rejected in this SDG are much lower than the action level (25 ppm) for the site

3. These results were rejected due to high matrix spike recovery (282.2%). Consequently, results reported by the laboratory can be considered biased high, i.e., the actual results should be lower than the reported results. These results can be corrected to values ranging from 0.2 ppm to 2.4 ppm. Both corrected and uncorrected results are below the action level of 25 ppm.

SDG # PX- 33 (14 Soil Samples)

1. Sample results in this SDG ranged from non-detects through 232 ppm.

2. The laboratory analyzed two matrix spiked samples for this SDG:

(i) Six samples, PX-33 through PX-38, were digested and analyzed with one matrix spiked sample with a spike recovery of 447.3%. The initial validator rejected all associated sample results according to the matrix spike recovery QC criteria . However, results for samples PX-37 and PX-38 should not have been rejected due to high matrix spike recovery criteria because mercury was not detected in these samples:

(ii) Results for samples PX-33 and PX-36 are 4.2 ppm and 0.88 ppm, respectively. Based on associated high percent spike recovery, these results are considered biased high and as such are useable when the action level is 25 ppm.

(iii) Results for samples PX-33A, PX-34 and PX-35 are 232 ppm, 27.9 ppm and 76.9 ppm, respectively, which are higher than the action level (25 ppm). However, these results are considered biased high because of the associated high spike recovery (447.3%). A correction based upon simple arithmetic principles of percent calculations can be applied to obtain corresponding unbiased results. Application of this correction results in the following corrected results:

Sample #	Biased High Results	Corrected Results
PX- 33A	232 ppm	51.9 ppm
PX-34	27.9 ppm	6.2 ppm
PX-35	76.4 ppm	17.1 ppm

Two of the corrected results are lower than the action level, but the third result (51.9 ppm for PX-33A) is still higher.

(iv) The other spiked sample was digested and analyzed with four samples, PX-39, PX-40, PX41 and PX-42. The percent spike recovery for this batch was -25.5%. Associated sample results (which range from 0.67 ppm to 35.2ppm) are considered biased low, (i.e., the actual results should be higher than the reported results). It is suspected that interferences present in the samples severely depressed the detection of mercury resulting in negative matrix spike recovery. Unbiased/corrected results are believed to be extremely higher than both the reported results and action level.

Conclusion

The initial validator rejected mercury results due to the matrix spike recoveries being outside the acceptance limits. The reported sample results for SDG # PX-1 are considered biased high due to high matrix spike recovery (282.2%). Both corrected and reported results in this SDG are below the removal action level (25 ppm). Results for six samples (PX-33 through PX-38) in SDG # PX -33 are also considered biased high due to the associated matrix spike recovery (447.3%). Application of an arithmetical correction yielded all values except one below the action level. Corrected result (51.9 ppm) for sample PX-33A still remains greater than the action level. Four other samples in SDG # PX-33 were associated with matrix spike recovery of -25.5%. The reported results for these samples are biased extremely low and the corrected results would be extremely high. The spiked sample analysis provides information about the effect of the sample matrix on the digestion and measurement methodology. Matrix spike recovery may be affected by sample matrix, contamination from a variety of sources, interferences, sample homogeneity, sample preparation and analysis techniques, and, hence, determines the accuracy of a measurement process. The laboratory analyzed two matrix spiked samples for the same SDG # PX-33 with extremely high (447.3%) and extremely low (-25.5%) recoveries, utilizing the same sample preparation and analysis procedures. In light of a number of factors affecting the matrix spike recovery, it is recommended that all samples in SDG # PX-33 must be recollected and reanalyzed to generate more reliable results.

If you have any questions, please contact me at (732) 906-6169.

cc: Robert Runyon, 2DESA-HWSB
Richard Salkie, 2ERRD-RAB
Joseph Rotola, 2ERRD-RAS