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

START-02-F-00282

TRANSMITTAL MEMO

To: Joe Cosentino, OSC
Removal Action Branch, U.S. EPA Region II

From: Smita Sumbaly, Data Reviewer
Hemendra Moradia, PM
START Region II

Subject: V & M/Albaladejo Farms Site
Data Validation Assessment

Date: May 22, 1996

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

- Data validation results for the following parameters:

Lead	30 samples
Copper	30 samples
- Matrices and Number of Samples

Soil	30 samples
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- Sampling date: March 12 - 19, 1996.

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

cc: START PM Hemendra Moradia
START FILE TDD #: 02-9509-0025
TDD #: 02-9603-0009
PCS #: 1256

U.S. ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

DATE: May 21, 1996

TO: Joe Cosentino, OSC
USEPA Region II

FROM: Smita Sumbaly
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 |
| Spectra Matching Quality | DFTPP and BFB Tuning |
| Surrogate Spikes | Chromatography |
| Matrix Spikes/Duplicates | Holding Times |
| Calibration | Compound ID (HSL, TIC) |

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

Summary of Results

	I	II	III	IV
<u>Metal(s)</u>	_____	_____	_____	_____
<u>Pb & Cu</u>	_____	_____	_____	_____
Acceptable as Submitted	_____	_____	_____	_____
Acceptable with Comments	X	_____	_____	_____
Unacceptable, Action Pending	_____	_____	_____	_____
Unacceptable	_____	_____	_____	_____

Data Reviewed by: Smita Sumbaly Date: 05/21/96

Approved By: *JTU* Date: *J/23/96*

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

NARRATIVE

CASE No. 1256

SITE NAME: V & M/Albaladejo Farms Site

Vega Baja, Almirante Norte Ward, Puerto Rico.

Laboratory Name: Industrial Environmental Analysts (IEA)

INTRODUCTION:

The laboratory's portion of this Case consisted of 30 samples collected on March 12-19, 1996.

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

The laboratory reported No problems with the analyses of Lead and Copper - Inorganic parameter.

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

Comments:

1. Refer to Data Assessment Narrative.

REGION II START DATA ASSESSMENT REPORT

Page 1 of 4

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

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

Case #: RFP # 1256

Site: V & M/ALBALADEJO FARMS SITE

SDG#: Z1-1

Lab: IEA, INC.

MATRIX:
Soil: 30

Contractor: WESTON-START

Reviewer: SMITA SUMBALY

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.

Between March 12 - 19, 1996, USEPA Region II START personnel collected thirty (30) soil samples for confirmation sample analysis of X-ray Fluorescence investigative field sample analyses performed to determine Lead (Pb) and Copper (Cu). Samples were collected from the V & M/Albaladejo Farms Site, Vega Baja, Almirante Norte Ward, Puerto Rico. On March 28, 1996, the prepared X-ray sample cups were hand-delivered to Industrial Environmental Analysts (IEA), Inc. laboratory in Whippany, New Jersey. The laboratory verified that samples were received intact, and properly custody sealed. (The sample cooler temperature recorded at 20.0°C).

Target Analyte List (TAL) inorganic analyses for Lead and Copper were performed following the Contract Laboratory Program (CLP) Statement of work (SOW) number 03/90 (ILMO3.0).

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

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

A.2.2 (continuation)

Client identification (ID) and Laboratory ID numbers:

<u>Client ID No.</u>	<u>Laboratory ID No.</u>	<u>Matrix</u>	<u>Sampling Date</u>
Z1-1	61186001	Soil	03/12/96
Z1-2 ¹	61186002	Soil	03/12/96
Z1-3	61186005	Soil	03/12/96
Z1-4	61186006	Soil	03/12/96
Z1-5	61186007	Soil	03/12/96
Z1-8	61186008	Soil	03/12/96
Z2-1	61186009	Soil	03/13/96
Z2-3 ¹	61186010	Soil	03/13/96
Z2-2	61186013	Soil	03/13/96
Z2-5	61186014	Soil	03/13/96
Z2-4	61186015	Soil	03/13/96
Z2-6	61186016	Soil	03/13/96
Z2-8	61186017	Soil	03/13/96
Z2-9	61186018	Soil	03/13/96
Z1-1A	61186019	Soil	03/13/96
Z3-9	61186020	Soil	03/13/96
Z3-2	61186021	Soil	03/13/96
Z3-4	61186022	Soil	03/13/96
Z3-5 ¹	61186023	Soil	03/13/96
Z3-6	61186024	Soil	03/13/96
Z4-17A	61186025	Soil	03/18/96
Z4-5B	61186026	Soil	03/19/96
RD-2	61186027	Soil	03/19/96
Z3-6B	61186028	Soil	03/19/96
Z3-8D	61186029	Soil	03/19/96
Z4-6C	61186030	Soil	03/19/96
Z3-5C	61186031	Soil	03/19/96
Z4-8B	61186032	Soil	03/19/96
Z4-7	61186033	Soil	03/18/96
Z3-8A	61186034	Soil	03/15/96

¹ The laboratory used soil samples Z1-2, Z2-3 and Z3-5 for matrix spikes and matrix duplicates.

OTHER ANALYTES WORK TABLE

Project: V & M/Albaladejo Farms Site

START PM: Hemendra Moradia

Sampling Date: March 12 - 19, 1996

SAMPLE #/CONCENTRATION (mg/kg)

ANALYTE	Method Detection Limit	Soil	Soil	Soil	Soil	Soil
		Z1-1 61186001	Z1-2 61186002	Z1-3 61186005	Z1-4 61186006	Z1-5 61186007
Percent Solids		74.8	72.9	81.1	65.9	74.5
Dilution Factor		Pb/Cu 10 X D/F	1	1	1	Cu 5 X D/F
Copper	0.32	13000 J	559 J	170 J	126 J	4860 J
Lead	0.2	6970 J	103 J	77.0 J	83.1 J	243 J

ANALYTE	Method Detection Limit	Soil	Soil	Soil	Soil	Soil
		Z1-8 61186008	Z2-1 61186009	Z2-3 61186010	Z2-2 61186013	Z2-5 61186014
Percent Solids		61.0	87.0	87.6	88.8	89.8
Dilution Factor		Pb/Cu 100 X D/F	Cu 25 X D/F	Cu 10 X D/F	Pb/Cu 25 X D/F	1
Copper	0.32	258000 J	14200 J	7520 J	47100 J	79.9 J
Lead	0.2	19800 J	1140 J	884 J	3890 J	26.6 J

ANALYTE	Method Detection Limit	Soil	Soil	Soil	Soil	Soil
		Z2-4 61186015	Z2-6 61186016	Z2-8 61186017	Z2-9 61186018	Z1-1A 61186019
Percent Solids		85.9	89.7	82.8	86.1	87.1
Dilution Factor		1	Pb/Cu 25 X D/F	1	Pb/Cu 10 X D/F	1
Copper	0.32	187 J	48100 J	900 J	11200 J	260 J
Lead	0.2	48.2 J	12800 J	1490 J	6550 J	165 J

ANALYTE	Method Detection Limit	Soil	Soil	Soil	Soil	Soil
		Z3-9 61186020	Z3-2 61186021	Z3-4 61186022	Z3-5 61186023	Z3-6 61186024
Percent Solids		90.9	91.2	87.3	90.0	88.8
Dilution Factor		Pb/Cu 50 X D/F	Cu 5 X D/F	Pb/Cu 25 X D/F	1	1
Copper	0.32	58000 J	6890 J	44700 J	224	1230
Lead	0.2	33500 J	1200 J	3060 J	610	793

U - non-detected compound

B - compound detected in the associated Method Blank

J - estimated value

† - between the instrument detection limit (IDL)
and the method detection limit (MDL)

∩ - presumptive evidence of a compound
at an estimated value

R - rejected compound

OTHER ANALYTES WORK TABLE

Project: V & M/Albaladejo Farms Site

START PM: Hemendra Moradia

Sampling Date: March 12 - 19, 1996

SAMPLE #/CONCENTRATION (mg/kg)

ANALYTE	Method Detection Limit	Soil Z4-17A 61186025	Soil Z4-5B 61186026	Soil RD-2 61186027	Soil Z3-6B 61186028	Soil Z3-8D 61186029
Percent Solids		96.3	68.0	93.7	93.5	77.8
Dilution Factor		1	1	1	Cu 2 X D/F	1
Copper	0.32	60.0	62.8	650	2350	130
Lead	0.2	380	86.9	405	452	116

ANALYTE	Method Detection Limit	Soil Z4-6C 61186030	Soil Z3-5C 61186031	Soil Z4-8B 61186032	Soil Z4-7 61186033	Soil Z3-8A 61186034
Percent Solids		71.4	74.8	71.7	97.3	76.5
Dilution Factor		Pb 10 X D/F	1	1	Pb/Cu 5 X D/F	1
Copper	0.32	338	116	89.0	69.0	482
Lead	0.2	5300	105	183	157	2070

ANALYTE	Method Detection Limit					
Percent Solids						
Dilution Factor						

ANALYTE	Method Detection Limit					
Percent Solids						
Dilution Factor						

- U - non-detected compound
- B - compound detected in the associated Method Blank
- J - estimated value
- J - between the instrument detection limit (IDL)
and the method detection limit (MDL)
- JN - presumptive evidence of a compound
at an estimated value
- rejected compound

Client: WESTON TAT

Job No: 20960-61186

CASE NARRATIVE

METALS

Lead was detected in a preparation blank. The sample concentration was greater than ten-times that of the blank.

Sample 61186004DUP (Z1-2DUP) was not digested due to insufficient sample volume.

METHODOLOGY SUMMARY**METALS**

Metals analysis is based on USEPA CLP ILM01.3 Arsenic, selenium, thallium and lead maybe analyzed by furnace AA with Zeeman background correction. Mercury is analyzed by cold vapor technique. All other metals are analyzed by Inductively Coupled Argon Plasma emission spectroscopy (if the ICP61E Trace is used, Arsenic, Selenium, Thallium and Lead can be analyzed by ICP). Samples for ICP analysis are digested with hydrochloric and nitric acids. Samples for furnace analysis are digested with nitric acid. Samples for mercury analysis are digested with potassium permanganate and nitric acid. The holding time for mercury is twenty-six (26) days from collection. The holding time for all other metals is six (6) months.

1
INORGANIC ANALYSES DATA SHEET

Z1-1

1 Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186001

Level (low/med): LOW Date Received: 03/28/96

% Solids: 74.8

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	13000		*E J	P
7439-89-6	Iron				NR
7439-92-1	Lead	6970		E J	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z1-2

Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186

SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL

Lab Sample ID: 61186002

Level (low/med): LOW

Date Received: 03/28/96

% Solids: 72.9

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	559		*E J	P
7439-89-6	Iron				NR
7439-92-1	Lead	103		E J	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN

Clarity Before: _____

Texture: MEDIUM

Color After: YELLOW

Clarity After: CLEAR

Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z1-2 MS

Sample Name: IEA NJ Contract: _____

Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186003

Level (low/med): _____ Date Received: 03/28/96

Solids: 72.9

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	829		*E	P
7439-89-6	Iron				NR
7439-92-1	Lead	255		E	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: M
 Color After: YELLOW Clarity After: C Artifacts: N

Comments:

U.S. EPA - CLP
1
INORGANIC ANALYSES DATA SHEET

000015
EPA SAMPLE NO.

Z1-3

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186005

Level (low/med): LOW Date Received: 03/28/96

% Solids: 81.1

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	170		*E J	P
7439-89-6	Iron				NR
7439-92-1	Lead	77.0		E J	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z1-5

State: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186007

Level (low/med): LOW Date Received: 03/28/96

Solids: 74.5

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	4860		*E J	P
7439-89-6	Iron				NR
7439-92-1	Lead	243		E J	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z1-8

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186008

Level (low/med): LOW Date Received: 03/28/96

Solids: 61.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	258000		*E J	P
7439-89-6	Iron				NR
7439-92-1	Lead	19800		E J	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z2-1

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186009

Level (low/med): LOW Date Received: 03/28/96

Solids: 87.0

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	14200		*E J	P
7439-89-6	Iron				NR
7439-92-1	Lead	1140		E J	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z2-3

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186010

Level (low/med): LOW Date Received: 03/28/96

% Solids: 87.6

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	7520		*E J	P
7439-89-6	Iron				NR
7439-92-1	Lead	884		E J	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z2-3 MS

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186011

Level (low/med): _____ Date Received: 03/28/96

% Solids: 87.6

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	2800		*E	P
7439-89-6	Iron				NR
7439-92-1	Lead	5710		E	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: M

Color After: YELLOW Clarity After: C Artifacts: N

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z2-3 DUP

ab name: IEA NJ Contract: _____

ab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

atrix (soil/water): SOIL Lab Sample ID: 61186012

evel (low/med): _____ Date Received: 03/28/96

Solids: 87.6

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	2710		*E -	P
7439-89-6	Iron				NR
7439-92-1	Lead	895		E -	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BR Clarity Before: _____ Texture: _____
 Color After: YE Clarity After: _____ Artifacts: _____

Comments: _____

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z2-5

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186014

Level (low/med): LOW Date Received: 03/28/96

Solids: 89.8

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	79.9		*E J	P
7439-89-6	Iron				NR
7439-92-1	Lead	26.6		E J	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z2-6

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186016

Level (low/med): LOW Date Received: 03/28/96

Solids: 89.7

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	48100		*E J	P
7439-89-6	Iron				NR
7439-92-1	Lead	12800		E J	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z2-8

Name: IEA NJ Contract: _____

Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186017

Level (low/med): LOW Date Received: 03/28/96

Solids: 82.8

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	900		*E J	P
7439-89-6	Iron				NR
7439-92-1	Lead	1490		E J	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

22-9

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186018

Level (low/med): LOW Date Received: 03/28/96

Solids: 86.1

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	11200		*E J	P
7439-89-6	Iron				NR
7439-92-1	Lead	6550		E J	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z1-1A

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186019

Level (low/med): LOW Date Received: 03/28/96

% Solids: 87.1

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	260		*E J	P
7439-89-6	Iron				NR
7439-92-1	Lead	165		E J	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z3-4

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186022

Level (low/med): LOW Date Received: 03/28/96

% Solids: 87.3

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	44700		*E T	P
7439-89-6	Iron				NR
7439-92-1	Lead	3060		E J	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-5

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186023

Level (low/med): LOW Date Received: 03/28/96

% Solids: 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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	224			P
7439-89-6	Iron				NR
7439-92-1	Lead	610			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z3-6

Lab Name: IEA_NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186024

Level (low/med): LOW Date Received: 03/28/96

% Solids: 88.8

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	1230			P
7439-89-6	Iron				NR
7439-92-1	Lead	793			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z4-17A

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186

SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL

Lab Sample ID: 61186025

Level (low/med): LOW

Date Received: 03/28/96

% Solids: 96.3

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	60.0			P
7439-89-6	Iron				NR
7439-92-1	Lead	380			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN

Clarity Before: _____

Texture: MEDIUM

Color After: YELLOW

Clarity After: CLEAR

Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

Z4-5B

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186026

Level (low/med): LOW Date Received: 03/28/96

% Solids: 68.0

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	62.8			P
7439-89-6	Iron				NR
7439-92-1	Lead	86.9			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

RD-2

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186027

Level (low/med): LOW Date Received: 03/28/96

% Solids: 93.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	650			P
7439-89-6	Iron				NR
7439-92-1	Lead	405			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z3-6B

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186028

Level (low/med): LOW Date Received: 03/28/96

% Solids: 93.5

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	2350			P
7439-89-6	Iron				NR
7439-92-1	Lead	452			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z3-8D

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186029

Level (low/med): LOW Date Received: 03/28/96

% Solids: 77.8

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	130			P
7439-89-6	Iron				NR
7439-92-1	Lead	116			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z4-6C

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186030

Level (low/med): LOW Date Received: 03/28/96

% Solids: 71.4

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	338			P
7439-89-6	Iron				NR
7439-92-1	Lead	5300			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z3-5C

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186

SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL

Lab Sample ID: 61186031

Level (low/med): LOW

Date Received: 03/28/96

% Solids: 74.8

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	116			P
7439-89-6	Iron				NR
7439-92-1	Lead	105			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN

Clarity Before: _____

Texture: MEDIUM

Color After: YELLOW

Clarity After: CLEAR

Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z4-8B

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186032

Level (low/med): LOW Date Received: 03/28/96

% Solids: 71.7

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	89.0			P
7439-89-6	Iron				NR
7439-92-1	Lead	183			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z4-7

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186 SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL Lab Sample ID: 61186033

Level (low/med): LOW Date Received: 03/28/96

% Solids: 97.3

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	69.0			P
7439-89-6	Iron				NR
7439-92-1	Lead	157			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: NO

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Z3-8A

Lab Name: IEA NJ Contract: _____

Lab Code: IEANJ Case No.: 61186

SAS No.: _____ SDG No.: Z1-1

Matrix (soil/water): SOIL

Lab Sample ID: 61186034

Level (low/med): LOW

Date Received: 03/28/96

% Solids: 76.5

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
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper	482			P
7439-89-6	Iron				NR
7439-92-1	Lead	2070			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN

Clarity Before: _____

Texture: MEDIUM

Color After: YELLOW

Clarity After: CLEAR

Artifacts: NO

Comments:

FP No.:
Q No.:
33 160

CHAIN OF CUSTODY RECORD



61186

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	040006
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

end 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 #)	RAS ANALYSIS						RCRA ANALYSIS			OTHER	
						VOA	BNA	PEST	PCBs	TAL	CN	KCN	COR	REAC		
Z1-1	3/12/96	5	M/H	G	N											Cu, Pb
Z1-2		5	L/M	G	N											Cu, Pb (MS/MSD INCLUDED)*
Z1-3		5	L/M	G	N											
Z1-4		5	L/M	G	N											
Z1-5		5	M/H	G	N											
Z1-8		5	M/H	G	N											
Z2-1	3/13/96	5	M/H	G	N											
Z2-3		5	M/H	G	N											Cu, Pb (MS/MSD INCLUDED)*
Z2-2		5	M/H	G	N											
Z2-5		5	L/M	G	N											
Z2-4		5	L/M	G	N											

Comments: *EXTRA VOLUME WAS NOT COLLECTED IN THE FIELD, THEREFORE, IF SAMPLE CUPS CONTAIN INSUFFICIENT VOLUME TO PERFORM THESE GC ANALYSIS, THE LABORATORY SHOULD PERFORM A SOIL BLANK SPIKE ANALYSIS.

Person Assuming Responsibility for Sample: HELENDRA MORADIA - START PM
Time: 10:00 Date (MM/DD/YY): 3/19/96

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
ALL	H. MORADIA	1500	3/28/96	[Signature] 3/28/96 1630	LAB ANALYSIS
				PASSED RAD SCREENING DATE: 3/17/96 INITIALS: [Signature]	

P.No.:

CHAIN OF CUSTODY RECORD

Matrix Box No.:

Preservative Box No.:

No.:

2-160



61186

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM

EPA CONTRACT 68-W5-0019

Phone: 908-225-6116 Fax: 908-225-7037

- 1. Surface Water
- 2. Ground Water
- 3. Leachate
- 4. Rinse
- 5. Soil/Sediment
- 6. Oil
- 7. Waste
- 8. Other (Specify)

- 1. HCl
- 2. HN03
- 3. Na2SO4
- 4. H2SO4
- 5. Other (Specify)
- 6. Ice Only
- N. Not Preserved
- * See Comments

and 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: Smits Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Mod-M High-H	Sample Type Type Comp-C Grab-G	Sample Preserv. (Enter box #)	RAS ANALYSIS						RCRA ANALYSIS			OTHER	
						VOA	BNA	PEST	PCBs	TAL	CN	KEN	COR	REAC		
Z2-6	3/13/96	5	L/M	G	N											Cu, Pb
Z2-8		5	M/H	G	N											
Z2-9		5	M/H	G	N											
Z1-1A		5	L/M	G	N											
Z3-9		5	M/H	G	N											
Z3-2		5	M/H	G	N											
Z3-4		5	M/H	G	N											
Z3-5		5	M/H	G	N											
Z3-6		5	M/H	G	N											
Z4-17A	3/18/96	5	L/M	G	N											
Z4-5B	3/19/96	5	L/M	G	N											

Comments:

Person Assuming Responsibility for Sample:

HEMENDRA MORASIA - START PM

Time

1000

Date (MM/DD/YY)

3/19/96

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
ALL	H. MORASIA	1000	3/25/96	<i>[Signature]</i> 3/25/96	LAB ANALYSIS
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
Sample Number	Relinquished By:	Time	Date	PASSED RAD SCREENING DATE: 9/11/92 INITIALS: <i>[Signature]</i>	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.

PAGE 2 OF 3

200677

No.:
No.:
-160

CHAIN OF CUSTODY RECORD



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. Rinse	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

d 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 #)	RAS ANALYSIS					RCRA ANALYSIS			OTHER	
						VOA	BNA	PEST	PCBs	TAL	CN	IGN	COR		REAC
20-2	3/19/96	5	LM	G	N										Cu, Pb
23-6B	3/19/96	5	LM	G	N										
23-8D	3/19/96	5	LM	G	N										
24-6C	3/19/96	5	M/H	G	N										
23-5C	3/19/96	5	LM	G	N										
24-8B	3/19/96	5	LM	G	N										
24-7	3/18/96	5	M/H	G	N										
23 8A	3/15/96	5	M/H	G	N										↓

Comments: 1) SAMPLES IN XRF CUPS - ANALYZE FOR LEAD & COPPER
2) 3 OF THE SAMPLES MAY BE >10,000 PPM FOR LEAD
3)

on Assuming Responsibility for Sample:
HEMENDRA MORADIA - START PM
Time: 1000 Date (MM/DD/YY): 3/19/96

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
ALL	H. MORADIA	1500	3/28/96	<i>[Signature]</i> 1670 3/28/96	LAS ANALYSIS
				PASSED RAD SCREENING DATE: 3/28/96 INITIALS: <i>[Signature]</i>	

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