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JAN 1993
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CASE NO. 11-004

DATA SUMMARY REPORT
ORGANICS

PREPARED BY:

TMA ARLI
160 TAYLOR ST.
MONROVIA CA 91016

OCT 1996
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CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 11-004

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : November 2, 1992

1.0 DESCRIPTION OF CASE :

Five soil samples were analyzed for TCL Organics-Volatiles, Semivolatiles, Pesticides/PCBs according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, Revision OLM01.8.

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	ANALYSIS REQUESTED	MATRIX
B07HJ1	A2-11-004-01A	V	SOIL
B07HJ1 MS	A2-11-004-01B	V	SOIL
B07HJ1 MSD	A2-11-004-01C	V	SOIL
B07HJ1	A2-11-004-01D	SV & P	SOIL
B07HJ1 MS	A2-11-004-01E	SV	SOIL
B07HJ1 MSD	A2-11-004-01F	SV	SOIL
B07HJ2	A2-11-004-02A	V	SOIL
B07HJ2	A2-11-004-02B	SV & P	SOIL
B07HJ3	A2-11-004-03A	V	SOIL
B07HJ3	A2-11-004-03B	SV & P	SOIL
B07HJ3 MS	A2-11-004-03C	P	SOIL
B07HJ3 MSD	A2-11-004-03D	P	SOIL
B07HJ6	A2-11-004-04A	V	SOIL
B07HJ6	A2-11-004-04B	SV & P	SOIL
B07HJ7	A2-11-004-05A	V	SOIL
B07HJ7	A2-11-004-05B	SV & P	SOIL

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

Due to excessive moisture in ice bags around the sample bottles two label problems were encountered. The label for sample B07HJ7 Pesticide/PCB and Anions, was detached from the sample bottle but remained in the plastic wrapping for the bottle. The label was re-attached to the bottle. One half of the label for sample B07HJ2 Pesticide/PCB and Anions, was not attached to the sample bottle. The partial label was wet and therefore illegible. Through the process of elimination, the sample ID was determined to be B07HJ2.

All of the other samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were analyzed within the CLP SOW holding times.

All of the QC results were within the limits specified by the EPA CLP SOW.

TUNES :

All of the BFB tunes are injected directly into the GC/MS instrument.

3.2.2 SEMIVOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times.

All of the QC results were within the limits specified by the EPA CLP SOW.

PESTICIDE/PCB ANALYSIS :

SEQUENCE NOTES :

The sequence was started on 11/16/92 and analyzed in accordance with the EPA CLP SOW. The sequence was analyzed by single injection into a dual column system. The sequence met all the QC criteria specified in the CLP SOW.

The Chromatograms are presented in the manner consistent with the capabilities of the Nelson 2600 Data System which normalizes the largest peak to scale.

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. The percent difference between the two GC columns for DCB Surrogate recoveries in samples B07HJ3MS and B07HJ3MSD exceeded 25%. Samples B07HJ3MS and B07HJ3MSD had Dieldrin spike recoveries above the QC limit on the DB-1701 column. This was due to an interference peak that co-eluted with Dieldrin on the DB-1701 column. The co-elution of the peaks on the DB-1701 column resulted in a percent difference between the two GC column that exceeded the 25% limit. Therefore, Dieldrin has been "P" qualified on the MS and MSD samples.

All of the other results were within the limits specified by the EPA CLP SOW.

We 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 in this hardcopy data package and in the computer-readable data submitted on diskette is authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Nicole Roth
CLP Program Manager

Wida Ang
Organics Supervisor

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R16

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: not dec. 2 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	42	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

EPA SAMPLE NO.

B07HJ1

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R16

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: not dec. 2 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	28.33	24	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R12

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: not dec. 4 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	14	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07HJ2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R12

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: not dec. 4 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R13

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: not dec. 4 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	17	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B07HJ3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R13

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: not dec. 4 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21105R06

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: not dec. 4 Date Analyzed: 11/05/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	11	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07HJ6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21105R06

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: not dec. 4 Date Analyzed: 11/05/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALCOHOL	28.28	9	J

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EPA SAMPLE NO.

B07HJ7

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R15

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: not dec. 3 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	26	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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EPA SAMPLE NO.

B07HJ7

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R15

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: not dec. 3 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	28.42	13	J

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000015

EPA SAMPLE NO.

B07HJ1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-01D

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 21118S16

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/18/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	800	U

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EPA SAMPLE NO.

B07HJ1

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-01D

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 21118S16

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/18/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	800	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	290	J
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	800	U
534-52-1	4,6-Dinitro-2-methylphenol	800	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	800	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	40	J
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	330	U
218-01-9	Chrysene	330	U
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

9613492.8223

000017
EPA SAMPLE NO.

B07HJ1

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-01D

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 21118S16

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/18/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.62	22000	BJ
2.	UNKNOWN HYDROCARBON	5.83	82000	BJ
3.	UNKNOWN HYDROCARBON	6.13	330	J
4.	UNKNOWN HYDROCARBON	6.63	4300	J
5.	UNKNOWN KETONE	7.05	170	BJ
6.	UNKNOWN ALCOHOL	8.10	270	BJ
7.	HEXANEDIOIC ACID ESTER ISOME	24.38	130	BJ

9613492.8224

000018

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-02B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21118S19

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	820	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	820	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	820	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	820	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-02B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21118S19

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	820	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	820	U
534-52-1	4,6-Dinitro-2-methylphenol	820	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	820	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	36	J
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	340	U
117-81-7	bis(2-Ethylhexyl)Phthalate	340	U
218-01-9	Chrysene	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	340	U
207-08-9	Benzo(k)Fluoranthene	340	U
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07HJ2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-02B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21118S19

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.62	24000	J
2.	UNKNOWN HYDROCARBON	5.83	76000	BJ
3.	UNKNOWN HYDROCARBON	6.12	380	J
4.	UNKNOWN HYDROCARBON	6.60	4800	BJ
5.	UNKNOWN KETONE	6.78	620	J
6.	UNKNOWN KETONE	7.00	310	BJ
7.	UNKNOWN ALCOHOL	8.07	270	BJ
8.	UNKNOWN KETONE	12.48	140	J
9.	UNKNOWN COMPOUND	20.97	1200	J
10.	HEXANEDIOIC ACID ESTER ISOME	24.35	170	BJ

9613492.8227

000021

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-03B

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 21118S20

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	830	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	830	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-03B

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 21118S20

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	830	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-methylphenol	830	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	830	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	39	J
206-44-0	Fluoranthene	62	J
129-00-0	Pyrene	67	J
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	53	J
117-81-7	bis(2-Ethylhexyl)Phthalate	340	U
218-01-9	Chrysene	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	46	J
207-08-9	Benzo(k)Fluoranthene	340	U
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

(1) - Cannot be separated from Diphenylamine

9613492.8229

000023

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07HJ3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-03B

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 21118S20

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.62	69000	J
2.	UNKNOWN HYDROCARBON	5.83	74000	BJ
3.	UNKNOWN HYDROCARBON	6.12	340	J
4.	UNKNOWN HYDROCARBON	6.62	4500	BJ
5.	UNKNOWN KETONE	6.80	1200	J
6.	UNKNOWN KETONE	7.02	410	BJ
7.	UNKNOWN ALCOHOL	8.10	280	J
8.	UNKNOWN COMPOUND	21.00	1300	J
9.	HEXANEDIOIC ACID ESTER ISOME	24.38	1900	BJ

9613492.8230

000024

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-04B

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21118S21

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	820	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	820	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	820	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	820	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-04B

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21118S21

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	820	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	820	U
534-52-1	4,6-Dinitro-2-methylphenol	820	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	820	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	40	J
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	340	U
117-81-7	bis(2-Ethylhexyl)Phthalate	39	J
218-01-9	Chrysene	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	340	U
207-08-9	Benzo(k)Fluoranthene	340	U
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

(1) - Cannot be separated from Diphenylamine

9613492.8232

000026

EPA SAMPLE NO.

B07HJ6

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-04B

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21118S21

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.4

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.70	28000	J
2.	UNKNOWN HYDROCARBON	5.90	71000	BJ
3.	UNKNOWN HYDROCARBON	6.17	370	J
4.	UNKNOWN HYDROCARBON	6.63	5400	BJ
5.	UNKNOWN HYDROCARBON	6.80	310	J
6.	UNKNOWN KETONE	7.03	200	BJ
7.	UNKNOWN ALCOHOL	8.08	240	BJ

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-05B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21118S22

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	820	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	820	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	820	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	820	U

9613492.8234

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EPA SAMPLE NO.

B07BJ7

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-05B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21118S22

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	820	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	820	U
534-52-1	4,6-Dinitro-2-methylphenol	820	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	820	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	340	U
117-81-7	bis(2-Ethylhexyl)Phthalate	340	U
218-01-9	Chrysene	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	340	U
207-08-9	Benzo(k)Fluoranthene	340	U
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07HJ7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-05B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21118S22

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.62	68000	J
2.	UNKNOWN HYDROCARBON	5.83	73000	BJ
3.	UNKNOWN HYDROCARBON	6.12	310	J
4.	UNKNOWN HYDROCARBON	6.62	4500	BJ
5.	UNKNOWN KETONE	7.05	170	BJ
6.	UNKNOWN ALCOHOL	8.10	200	BJ
7.	UNKNOWN KETONE	12.52	100	J
8.	UNKNOWN CARBOXYLIC ACID ESTE	19.83	240	J
9.	HEXANEDIOIC ACID ESTER ISOME	24.42	5900	BJ

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-01D

Sample wt/vol: 30.3 (g/mL) G Lab File ID:

% Moisture: 2 decanted: (Y/N) N Date Received: 11/02/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/09/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/18/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.5 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-36-3	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	68	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

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000031

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-02B

Sample wt/vol: 30.2 (g/mL) G Lab File ID:

% Moisture: 4 decanted: (Y/N) N Date Received: 11/02/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/09/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/18/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	69	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

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000032
EPA SAMPLE NO.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

B07HJ3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-03B

Sample wt/vol: 30.5 (g/mL) G Lab File ID: _____

% Moisture: 4 decanted: (Y/N) N Date Received: 11/02/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/09/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/18/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.2 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	69	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-04B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: _____

% Moisture: 4 decanted: (Y/N) N Date Received: 11/02/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/09/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/18/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.4 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	69	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-05B

Sample wt/vol: 30.6 (g/mL) G Lab File ID: _____

% Moisture: 3 decanted: (Y/N) N Date Received: 11/02/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/09/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/18/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.5 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-36-3	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	68	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

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B07HJ1-TMA-352 TMA

RECORD COPY

JAN 1993
RECEIVED
OSM DMO

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

ORGANICS & GENERAL CHEMISTRY
Case No. 11-004
(TMA/ARLI Work Order # A2-11-004)

METALS
Case No. N2-11-005
(TMA/Skinner & Sherman W.O. # S2-11-030 & S2-11-031)

January 6, 1993

TMA Master Work Order N2-11-005

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

GENERAL CHEMISTRY
CASE NO. 11-004
(TMA/ARLI Work Order # A2-11-004)

ORGANICS
CASE NO. 11-004
(TMA/ARLI Work Order # A2-11-004)

General Chemistry and Organics results are presented for the following WHC SOIL sample(s):

B07HJ1	B07HJ2	B07HJ3
B07HJ6	B07HJ7	

Norcal Work Order # N2-11-005

Thermo Analytical Inc.
160 Taylor Street
Monrovia, CA 91016
(818) 357-3247

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000002

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-11-005

RCVD: 11/02/92 DUE: 12/02/92 11/02/92 15:24:45 KEEP: 03/02/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01A-S	B07HJ1	ARLI	WH014	WH015	WH016	WH217	WH232
02A-S	B07HJ2 *1	ARLI	WH014	WH015	WH016	WH217	WH232 *
03A-S	B07HJ3	ARLI	WH014	WH015	WH016	WH217	WH232
04A-S	B07HJ6	ARLI	WH014	WH015	WH016	WH217	WH232
05A-S	B07HJ7 *2	ARLI	WH014	WH015	WH016	WH217	WH232
05C-S	B07HJ7 MS	ARLI	WH014	WH015	WH016	WH232	
05D-S	B07HJ7 MSD	ARLI	WH014	WH015	WH016		
05E-S	B07HJ7 DUP	ARLI	WH217	WH232			

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
[illegible]	11-2-92	ARLI	11-2-92	[illegible]	11/3/92

*1 — Partial label on PCB/PEST/ANION BOTTLE, remnants of label unrecognizable. Deduced to be this sample by process of elimination and correlation to paperwork

*2 - Label found in plastic wrapping around bottle not on bottle itself. Bottle not labeled

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000002A

N2-11-005

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-KR-1

Collection Date: 10-27-92

Ice Chest No.: SMC 166

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.: 2519006468

Offsite Property No.: W93-0-0002-#3

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B07HJ1
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2) B07HJ2
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3) B07HJ3
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	Kermit Blum	11-2-92 0800 *
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/Norcal 10-31-92 ; opened 11-2-92 · KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9613492.8245

000002B

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector W.W. SETZER Date 10·30·92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B07NJ1	S	10·27·92	0930	✓1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓1-120ml aG CLP;VOA ✓1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) ✓1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07NJ2	S	10·27·92	1315	✓1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓1-120ml aG CLP;VOA ✓1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) ✓1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07NJ3	S	10·27·92	1400	✓1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓1-120ml aG CLP;VOA ✓1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) ✓1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST WOS 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G ~~Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ U-235/238,~~Pu-239/240~~,Am-241

*Type of Sample

A = Air	L = Liquid	SE = Sediment	T = Tissue	X = Other
DL = Drum Liquids	O = Oil	SL = Sludge	W = Water	
DS = Drum Solids	S = Soil	SO = Solid	WI = Wipe	

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

9613492.8246

000002C

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.U. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-KR-1

Collection Date: 10-29-92

Ice Chest No.: SML 240

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.: 2519006468

Offsite Property No.: WA3-0-0002#3,

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B07H56
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2) B07H57
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3)
- ~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
- ~~1,120ml aG:CLP;VOA~~
- ~~1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2~~ WWS
- ~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: W.U. Setzer	Received by: Kermit Blum	Date/Time: 11-2-92 0800 *
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/Norcal 10-31-92; opened 11-2-92 -KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9613492.8247

000002D

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector W.V. SETZER Date 10-30-92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Containers/Analysis Required
B07H56	S	10-29-92	0900	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07H57	S	10-29-92	1304	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241 WVS
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

*Type of Sample

A = Air	L = Liquid	SE = Sediment	T = Tissue	X = Other
DL = Drum Liquids	O = Oil	SL = Sludge	W = Water	
DS = Drum Solids	S = Soil	SO = Solid	WI = Wipe	

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

9613192.0248

000003

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI

PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): Trudy Galub

LOG-IN-DATE : 11/3/92

RECEIVED BY (SIGNATURE): Trudy Galub

CASE NUMBER:

SAMPLE DELIVERY GROUP NO.:

SAS NUMBER:

REMARKS: 70-POC, NJ Bound

1. Custody Seal(s) Present/Absent* Intact/Broken

2. Custody Seal Nos:

3. Chain of Custody Records Present/Absent*

4. Traffic Reports or Packing List Present/Absent*

5. Airbill Airbill/Sticker Present/Absent*

6. Airbill No.: 5188041994

7. Sample Tags Present/Absent*

8. Sample Tags Numbers Listed/Not Listed on Chain of Custody

9. Sample Condition: Intact/Broken*/Leaking

10. Does information on custody records, traffic reports, and sample tags agree Yes/No*

11. Date Recieved at Lab: 11/3/92

12. Temp of ice chest 1 °C

13. Time Recieved: 1030

SAMPLE TRANSFER

Fraction:

Area #:

By:

On:

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B07L40	A2-11-005-01	
	B07L85	A2-11-005-07	
	B07L50	A2-11-005-03	
	B07L70	A2-11-005-05	

* Contact SMO and attach record of resolution

Reviewed By:

Date:

Logbook No.:

Logbook Page No.:

FORM DC-1

9613192.8249

SAMPLE LOG-IN SHEET

000004

LAB NAME : TMA/ARLI

PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): Trudy Golan

LOG-IN-DATE : 11/3/92

RECEIVED BY (SIGNATURE): Trudy Golan

CASE NUMBER:

SAMPLE DELIVERY GROUP NO.:

SAS NUMBER:

REMARKS: 87-PSC

1. Custody Seal(s) Present/Absent* Intact/Broken

2. Custody Seal Nos:

3. Chain of Custody Records Present/Absent*

4. Traffic Reports or Packing List Present/Absent*

5. Airbill Airbill/Sticker Present/Absent*

6. Airbill No.: 5188041994

7. Sample Tags Present/Absent*

8. Sample Tags Numbers Listed/Not Listed on Chain of Custody

9. Sample Condition: Intact/Broken*/Leaking

10. Does information on custody records, traffic reports, and sample tags agree Yes/No*

11. Date Recieved at Lab: 11/3/92

12. Temp of ice chest 1 °C

13. Time Recieved: 1030

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B07L70	A2-11-005-05	
	B07L85	A2-11-005-07	
	B07HJ6	A2-11-004-04	
	B07HJ1	A2-11-004-01	
	B01940	A2-11-003-02	
	B07HJ7	A2-11-004-05	*
	B07HJ2	A2-11-004-02	*

SAMPLE TRANSFER

Fraction:

Area #:

By:

On:

* Contact SMO and attach record of resolution

Reviewed By:

Logbook No.:

Date:

Logbook Page No.:

FORM DC-1

*Sample tag for B07HJ7 found in plastic wrapping not on bottle

*Half tag found on 950 ml PCB/PEST sample; deduced to be B07HJ2 as first 3 numbers were readable and this was the only sample that could not be accounted for

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI

PAGE : 1 OF 1

000005

RECEIVED BY (PRINT NAME): Trudy Galub

LOG-IN-DATE : 11/3/92

RECEIVED BY (SIGNATURE): Trudy Galub

CASE NUMBER:

SAMPLE DELIVERY GROUP NO.:

SAS NUMBER:

REMARKS: Billy

1. Custody Seal(s) — Present/Absent* Intact/Broken

2. Custody Seal Nos:

3. Chain of Custody Records — Present/Absent*

4. Traffic Reports or Packing List — Present/Absent*

5. Airbill — Airbill/Sticker Present/Absent*

6. Airbill No.: 5188041994

7. Sample Tags — Present/Absent*

8. Sample Tags Numbers — Listed/Not Listed on Chain of Custody

9. Sample Condition: — Intact/Broken*/Leaking

10. Does information on custody records, traffic reports, and sample tags agree — Yes/No*

11. Date Recieved at Lab: 11/3/92

12. Temp of ice chest 1 °C

13. Time Recieved: 1030

SAMPLE TRANSFER

Fraction:

Area #:

By:

On:

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ET
	B07L44	A2-11-005-02	ONE VOA HAS BUBBLE
	B07L70	A2-11-005-05	
	B07L50	A2-11-005-03	
	B07L54	A2-11-005-04	
	B07L40	A2-11-005-01	
	B07L89	A2-11-005-08	
	B07KM1	A2-11-001-05	
	B07L74	A2-11-005-06	ONE VOA VIAL HAS BUBBLE
	B07L85	A2-11-005-07	
	B07HJ3	A2-11-004-03	
	B07HJ1	A2-11-004-01	
	B07HJ7	A2-11-004-05	
	B07HJ2	A2-11-004-02	
	B01932	A2-11-003-01	TG 11/3/92.

* Contact SMO and attach record of resolution

Reviewed By: Logbook No.:

Date: Logbook Page No.:

FORM DC-1

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 11/3/92 COMPANY WHC (CHC) OTHER ORD # 518804 1994

Surveyor's Name [illegible]

Model No. HP-210 / ESP-1 Model No. AC-3-7 / ESP-1

Serial Nos. 710289 / 02619 Serial Nos. 407726 / 02628

Calibration Date 3/25/92 Calibration Date 9/15/92

Instrument Calibration Factor 0.280 Instrument Calibration Factor 0.188

Sample	Location	HP-210 CPM	HP-210 Factor	HP-210 DPM	AC-3-7 CPM	AC-3-7 Factor	AC-3-7 DPM	Spillage or Breakage?	Activity dpm/100 cm²
Background		37.0			1.0				
Consistency		6950	0.2683		5796	1871			
Smear: 87 PSC		98.			17.0			None	
Billy		47.0			8.0			None	
NS Found		39.0			3.0			None	
Reported	WHC.	28 Sa ea		<50	pCi/g.				

Comments:

All OK ✓ Approved [illegible]

Not OK Date 11/3/92

AIRBILL
PACKAGE TRACKING NUMBER 5188041994

CUSTOMER CALL 800-238-5355 TOLL FREE

2237M 5188041994

RECIPIENT'S COPY

Date 11-2-94

From (Your Name) Please Print: SAMPLE CONTROL

Your Phone Number (Very Important): (510) 235-2633

Company: T M A / NORCAL

Department/Floor No.

Street Address: 2030 WRIGHT AVE

City: RICHMOND State: CA ZIP Required: 94804

To (Recipient's Name) Please Print: SAMPLE control

Recipient's Phone Number (Very Important)

Company: TMA ARL

Street Address (No Postal Delivery to P.O. Boxes or P.O. Zip Codes): 160 TAYLOR street

City: MONROVIA State: CA ZIP Required: 91016

YOUR INTERNAL BILLING REFERENCE INFORMATION (Optional) (Print all information will appear on invoice): 2320 6406

IF HOLD FOR PICK-UP, Print FEDEX Address Here: Street Address / City / State / ZIP Required

SERVICES (Check only one box)

DELIVERY AND SPECIAL HANDLING (Check all packages required)

1 HOLD FOR PICK-UP
2 DELIVER WEEKDAY
3 DELIVER SATURDAY
4 DANGEROUS GOODS
5
6
7 SIGNATURE SERVICE
8
9
10
11
12 HOLIDAY DELIVERY

Total 3 Total Total

L x W x H

Emp. No. / Date / Cash Received / Return Shipment / Third Party / Chg. To Del. / Chg. To Hold / Street Address / City / State / Zip / Received By: X / Date/Time Received / FedEx Employee Number / Release Signature

Federal Express Use: Base Charges / Declared Value Charge / Other 1 / Other 2 / Total Charges / REVISION DATE / PART NUMBER / FORMAT 126

9613492 8252

TMA Inc. REPORT Work Order # A2-11-004

Received: 11/02/92

Results by Sample

SAMPLE ID B07HJ1 FRACTION 01G TEST CODE WCCLPS NAME Anions in Solids - WH232

Date & Time Collected 10/27/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.5	mg/Kg	0.2
pH	9045	7.5	pH	.1
Sulfate	300.0	7	mg/Kg	2

FORM I

TMA Inc. REPORT Work Order # A2-11-004

Received: 11/02/92

Results by Sample

SAMPLE ID B07MJ2 FRACTION 02C TEST CODE WCCLPS NAME Anions in Solids - WN232

Date & Time Collected 10/29/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.4	mg/Kg	0.2
pH	9045	9.0	pH	.1
Sulfate	300.0	9	mg/Kg	2

FORM I

9613492.8255

000013

TMA Inc. REPORT Work Order # A2-11-004

Received: 11/02/92

Results by Sample

SAMPLE ID B07MJ3 FRACTION 03E TEST CODE WCCLPS NAME Anions in Solids - WM232

Date & Time Collected 10/29/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.5	mg/Kg	0.2
pH	9045	9.2	pH	.1
Sulfate	300.0	8	mg/Kg	2

FORM I

9613492.8256

TMA Inc. REPORT Work Order # A2-11-004

Received: 11/02/92

Results by Sample

SAMPLE ID B07WJ6 FRACTION 04C TEST CODE WCCLPS NAME Anions in Solids - WN232

Date & Time Collected 10/29/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.7	mg/Kg	0.2
pH	9045	9.4	pH	.1
Sulfate	300.0	15	mg/Kg	2

FORM I

TMA Inc. REPORT Work Order # A2-11-004

Received: 11/02/92

Results by Sample

SAMPLE ID B07MJ7 FRACTION 05C TEST CODE WCCLPS NAME Anions in Solids - WM232

Date & Time Collected 10/29/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.5	mg/Kg	0.2
pH	9045	9.5	pH	.1
Sulfate	300.0	9	mg/Kg	2

FORM I

9613492.8258

TMA

Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

QUALITY ENVIRONMENTAL SERVICES

JAN 1993
RECEIVED
OSM DMO

Report for

TMA/Norcal

WORK ORDER #S211030

Scientific Services Since 1922

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

9613492.8259

000001

Page 1 Skinner&Sherman REPORT Work Order # S2-11-030

Received: 11/03/92 12/29/92 15:33:32

REPORT TMA/NORCAL
TO 2030 Wright Avenue
Richmond, CA 94804

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 6
COMPANY TMA/NORCAL
FACILITY Richmond, CA

PREPARED TMA / Skinner & Sherman Labs.
BY 300 Second Avenue
P.O. Box 521
Waltham, MA 02254
ATTEN Client Services
PHONE (617) 890-7200

CERTIFIED BY

CONTACT DP

WORK ID N2-11-005
TAKEN BY CLIENT
TRANS FED EX
TYPE SOLID
P.O. # N2-11-005
INVOICE under separate cover

SAMPLE IDENTIFICATION

01 B07HJ1
02 B07HJ2
03 B07HJ3
04 B07HJ6
05 B07HJ7
05 B07HJ7 DUPL
05 B07HJ7 SPIKE
06 LCSS

TEST CODES and NAMES used on this workorder

NO3NO2 Nitrate Plus Nitrite

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. exercises due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

Received: 11/03/92

Results by Sample

SAMPLE ID B07HJ1 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 10/27/92 Category SOLID

NO3NO2 <2.50
mg N/kg

SAMPLE ID B07HJ2 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 10/27/92 Category SOLID

NO3NO2 <2.47
mg N/kg

SAMPLE ID B07HJ3 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 10/27/92 Category SOLID

NO3NO2 <2.47
mg N/kg

SAMPLE ID B07HJ6 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 10/27/92 Category SOLID

NO3NO2 <2.42
mg N/kg

SAMPLE ID B07HJ7 SAMPLE # 05 FRACTIONS: A
Date & Time Collected 10/27/92 Category SOLID

NO3NO2 <2.49
mg N/kg

SAMPLE ID B07HJ7 DUPL SAMPLE # 05 FRACTIONS: B
Date & Time Collected 10/27/92 Category SOLID

NO3NO2 <2.47
mg N/kg

SAMPLE ID B07HJ7 SPIKE SAMPLE # 05 FRACTIONS: C
Date & Time Collected 10/27/92 Category SOLID

NO3NO2 20.7
mg N/kg

TMA
Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is sat
Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted before the analysis.
will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the i
amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, In
exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are h
thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

Skinner & Sherman Laboratories Inc.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-720
1-800-4 LAB TEST FAX (617) 890-3883

9613492.8261

000003

 Skinner&Sherman REPORT Work Order # S2-11-030

Received: 11/03/92

Results by Sample

SAMPLE ID LCSS SAMPLE # 06 FRACTIONS: A

Date & Time Collected not specified Category SOLID

NO3NO2 1.94

mg N/L

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until [illegible] invoice is [illegible]. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis [illegible] will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the [illegible] amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. exercises due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate [illegible] thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-2200
1-800-4 LAB TEST FAX (617) 890-3883

9613492.8262

TMA
Thermo Analytical Inc.

Skinner & Sherman Labs., Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200
FAX (617) 890-3883

RECORD COPY

JAN 1993
RECEIVED
OSM DMO

December 31, 1992

TMA/NORCAL
2030 Wright Avenue
Richmond, CA 94804
Attention: Dan Stuermer

Quality Control Narrative

Scope
Five (5) soil samples were submitted to TMA/Skinner & Sherman Laboratories, Inc. on November 3, 1992 from TMA/Norcal. The samples were analyzed for the USEPA CLP Target Analyte List metals and cyanide. The analysis were performed under TMA/Skinner and Sherman work order S211031.

Methodology
The samples were prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work ILM02.

Discussion
All quality control requirements were met for the samples with the following exceptions;

The antimony, mercury, and selenium digestion spike recovery exceeded the control limit requirements.

Please feel free to call if there are any questions concerning this package.

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

David N. Peterson
Assistant Laboratory Manager

9613492.8263

000041

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-11-005
RCVD: 11/02/92 DUE: 12/02/92 11/02/92 15:24:46 KEEP: 03/02/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SV and CATEGORY				
01B-S	B07HJ1	S&S	WH001	WH002	WH004	WH005	WH233
02B-S	B07HJ2	S&S	WH001	WH002	WH004	WH005	WH233
03B-S	B07HJ3	S&S	WH001	WH002	WH004	WH005	WH233
04B-S	B07HJ6	S&S	WH001	WH002	WH004	WH005	WH233
05B-S	B07HJ7	S&S	WH001	WH002	WH004	WH005	WH233
05F-S	B07HJ7 MS	S&S	WH001	WH002	WH004	WH005	WH233
05G-S	B07HJ7 DUP	S&S	WH001	WH002	WH004	WH005	WH233
05H-S	L C S	S&S	WH001	WH002	WH004	WH005	WH233

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
eyamamoto	11-2-92	SKINNER	11-2-92	[illegible]	11/3/92

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B07HJ1

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-005SAS No.: SDG No.: B07HJ1

Matrix (soil/water): SOIL Lab Sample ID: 11031-01S

Level (low/med): LOW Date Received: 11/03/92

% Solids: 98.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	50.3			P
7440-36-0	Antimony	2.9	U	N	P
7440-38-2	Arsenic	0.56	U		F
7440-39-3	Barium	0.33	B		P
7440-41-7	Beryllium	0.06	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	12.5	B		P
7440-47-3	Chromium	0.52	U		P
7440-48-4	Cobalt	0.26	U		P
7440-50-8	Copper	3.8	B		P
7439-89-6	Iron	192			P
7439-92-1	Lead	0.73			F
7439-95-4	Magnesium	4.6	B		P
7439-96-5	Manganese	0.39	B		P
7439-97-6	Mercury	0.04	U	N	CV
7440-02-0	Nickel	0.52	U		P
7440-09-7	Potassium	15.8	U		P
7782-49-2	Selenium	0.73	U	N	F
7440-22-4	Silver	0.72	U		P
7440-23-5	Sodium	29.8	B		P
7440-28-0	Thallium	0.25	U	W	F
7440-62-2	Vanadium	0.50	U		P
7440-66-6	Zinc	1.1	U		P
	Cyanide	0.50	U		CA

Color Before: WHITE Clarity Before: Texture: FINE

Color After: WHITE Clarity After: Artifacts:

Comments:

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HJ2

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-005SAS No.: SDG No.: B07HJ1

Matrix (soil/water): SOIL Lab Sample ID: 11031-02S

Level (low/med): LOW Date Received: 11/03/92

% 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	5430			P
7440-36-0	Antimony	3.0	U	N	P
7440-38-2	Arsenic	1.0	B	W	F
7440-39-3	Barium	60.6			P
7440-41-7	Beryllium	0.29	B		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	5500			P
7440-47-3	Chromium	9.5			P
7440-48-4	Cobalt	11.3			P
7440-50-8	Copper	22.3			P
7439-89-6	Iron	22700			P
7439-92-1	Lead	6.4			F
7439-95-4	Magnesium	4390			P
7439-96-5	Manganese	303			P
7439-97-6	Mercury	0.05	U	N	CV
7440-02-0	Nickel	8.3			P
7440-09-7	Potassium	932	B		P
7782-49-2	Selenium	0.80	U	WN	F
7440-22-4	Silver	0.72	U		P
7440-23-5	Sodium	238	B		P
7440-28-0	Thallium	0.27	U	W	F
7440-62-2	Vanadium	48.9			P
7440-66-6	Zinc	44.0			P
	Cyanide	0.52	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B07HJ3

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-005SAS No.: SDG No.: B07HJ1

Matrix (soil/water): SOIL Lab Sample ID: 11031-03S

Level (low/med): LOW Date Received: 11/03/92

% 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	6430			P
7440-36-0	Antimony	4.0	B	N	P
7440-38-2	Arsenic	1.6	B	W	F
7440-39-3	Barium	68.7			P
7440-41-7	Beryllium	0.39	B		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	6360			P
7440-47-3	Chromium	10.3			P
7440-48-4	Cobalt	12.7			P
7440-50-8	Copper	20.3			P
7439-89-6	Iron	25500			P
7439-92-1	Lead	6.2			F
7439-95-4	Magnesium	4970			P
7439-96-5	Manganese	417			P
7439-97-6	Mercury	0.06	B	N	CV
7440-02-0	Nickel	9.6			P
7440-09-7	Potassium	1120			P
7782-49-2	Selenium	0.77	U	WN	F
7440-22-4	Silver	0.79	B		P
7440-23-5	Sodium	287	B		P
7440-28-0	Thallium	0.26	U	W	F
7440-62-2	Vanadium	58.8			P
7440-66-6	Zinc	50.8			P
	Cyanide	0.51	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B07HJ6

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-005SAS No.: SDG No.: B07HJ1

Matrix (soil/water): SOIL Lab Sample ID: 11031-04S

Level (low/med): LOW Date Received: 11/03/92

% Solids: 94.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6260			P
7440-36-0	Antimony	3.2	B	N	P
7440-38-2	Arsenic	0.94	B	S	F
7440-39-3	Barium	65.8			P
7440-41-7	Beryllium	0.26	B		P
7440-43-9	Cadmium	0.35	B		P
7440-70-2	Calcium	3820			P
7440-47-3	Chromium	12.4			P
7440-48-4	Cobalt	8.7	B		P
7440-50-8	Copper	14.8			P
7439-89-6	Iron	17100			P
7439-92-1	Lead	3.6			F
7439-95-4	Magnesium	3930			P
7439-96-5	Manganese	266			P
7439-97-6	Mercury	0.05	U	N	CV
7440-02-0	Nickel	8.1	B		P
7440-09-7	Potassium	889	B		P
7782-49-2	Selenium	0.77	U	WN	F
7440-22-4	Silver	0.73	U		P
7440-23-5	Sodium	357	B		P
7440-28-0	Thallium	0.26	U	W	F
7440-62-2	Vanadium	42.4			P
7440-66-6	Zinc	35.2			P
	Cyanide	0.50	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

9613492.8268

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B07HJ7

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-005SAS No.: SDG No.: B07HJ1

Matrix (soil/water): SOIL Lab Sample ID: 11031-05S

Level (low/med): LOW Date Received: 11/03/92

% Solids: 94.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5570			P
7440-36-0	Antimony	3.0	U	N	P
7440-38-2	Arsenic	1.1	B	W	F
7440-39-3	Barium	60.4			P
7440-41-7	Beryllium	0.22	B		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	2820			P
7440-47-3	Chromium	11.1			P
7440-48-4	Cobalt	6.1	B		P
7440-50-8	Copper	12.0			P
7439-89-6	Iron	11900			P
7439-92-1	Lead	3.5			F
7439-95-4	Magnesium	3580			P
7439-96-5	Manganese	213			P
7439-97-6	Mercury	0.05	U	N	CV
7440-02-0	Nickel	9.5			P
7440-09-7	Potassium	1130			P
7782-49-2	Selenium	0.79	U	WN	F
7440-22-4	Silver	0.75	B		P
7440-23-5	Sodium	270	B		P
7440-28-0	Thallium	0.27	U	W	F
7440-62-2	Vanadium	27.5			P
7440-66-6	Zinc	28.1			P
	Cyanide	0.52	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

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PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-11-005
RCVD: 11/02/92 DUE: 12/02/92 11/02/92 15:24:46 KEEP: 03/02/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-S	B07HJ1	S&S	WH001	WH002	WH004	WH005	WH233
02B-S	B07HJ2	S&S	WH001	WH002	WH004	WH005	WH233
03B-S	B07HJ3	S&S	WH001	WH002	WH004	WH005	WH233
04B-S	B07HJ6	S&S	WH001	WH002	WH004	WH005	WH233
05B-S	B07HJ7	S&S	WH001	WH002	WH004	WH005	WH233
05F-S	B07HJ7 MS	S&S	WH001	WH002	WH004	WH005	WH233
05G-S	B07HJ7 DUP	S&S	WH001	WH002	WH004	WH005	WH233
05H-S	L C S	S&S	WH001	WH002	WH004	WH005	WH233

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
eyamamoto	11-2-92	SKINNER	11-2-92	[illegible]	11/3/92

194

9613492.8270

B07HJ1-TMA-352

TMA

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P. O. Box 4040
Richmond, CA 94804-0040
(510) 235-2633 Fax No. (510) 235-0438

RECEIVED

FEB 1993
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OSM DMO

February 23, 1993

SENT BY FEDERAL EXPRESS

Ref. TMA/Norcal N2-11-059-7122

Ms. Briana Colley
Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23
345 Hills Street/3000 Area
Richland, WA 99352

Dear Ms. Colley:

Enclosed on the Summary Data Section, are the gross alpha, gross beta, ^{14}C, ^{90}Sr, isotopic uranium, isotopic plutonium, ^{241}Am, and gamma scan results for the soil samples from 100-KR-1 Location we received 2 November 1992. The QA/QC results are also given in the Summary Data Section. The Summary Data Section is numbered pages 1 to 47, and the appendices are numbered pages 47a to 375.

Please call if you have any questions concerning this data.

Sincerely,

D. P. Kharkar

Dinkar P. Kharkar, Ph.D.
Manager, Nuclear Programs

DPK/ss

Enclosures: Section 1 and 2
Appendices

SDG	7122	Client	Westinghouse Hanford
Contact	Dinkar P. Kharkar	Contract	MBH-SVV-069262

CASE NARRATIVE

2.1 LABORATORY CONTROL SAMPLES con't.

Therefore, we attempted in these processing batches to use a different C-14 standard which would not be prone to the above problem. An organic solution was used, which was NOT NIST traceable. It was a very high level solution (on the order of 800,000 dpm/mL) and required a significant dilution. These two factors led to a high degree of doubt as to the actual added level of activity in these LCS's. I believe that these data are not valid.

A usual standard of the aqueous solution was also processed along with the other LCS's. This is sample 7117-401 and it has approximately the usual F/A ratios. This is the valid result which should be used.

We will continue to test this problem with some NIST-traceable organic solutions and these results should be available for sets 7138, 7144, 7130, and 7127.

The ^{241}Am MDA was higher than RDL due to low chemical recovery. The ^{59}Fe MDA was higher than RDL because the sample was wrongly calculated at To instead of time of count.

2.2 BLANKS

MDA's for all the analyses meet the RDL requirements.

2.3 REPLICATES

Results were satisfactory for all replicate analyses.

The gamma nuclide MDA's for sample number 7122-9 (replicate of 7122-1) were higher than RDL due to the small sample aliquot available for analysis. The ^{59}Fe MDA for the original sample number 7122-1 was higher than RDL due to the short half-life of ^{59}Fe.

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3/16/97

SDG	7122	Client	Westinghouse Hanford
Contact	Dinkar P. Kharkar	Contract	MBH-SVV-069262

CASE NARRATIVE

3.0 ANALYTICAL NOTES

3.1 Gross Alpha Analyses: The average MDA for gross alpha was (6 ± 1) pCi/g. Positive gross alpha concentration above RDL was not found in any of the samples.

3.2 Gross Beta Analyses: The average MDA for gross beta was (5 ± 1) pCi/g. Positive gross beta concentration above RDL was found in all samples except in sample 7122-1 & 6.

3.3 Carbon-14 Analyses: The average MDA was (20 ± 7) pCi/g. All sample results were less than RDL. Positive ^{14}C was not found in any of the samples.

3.4 Strontium-90 Analyses: The average yield for nine analyses was (73 ± 17)%. The lowest yield was 54% and the highest was 82%. The average MDA was (0.9 ± 0.2) pCi/g. Positive ^{90}Sr concentration was not found in any of the samples. All sample results were below RDL.

3.5 Uranium-233, 234, 238 Analyses: The average yield for nine analyses was (58 ± 19)%. The lowest yield was 8% and the highest was 71%. The average MDA was (0.1 ± 0.1) pCi/g. Concentration of ^{234}U and ^{238}U above RDL were found in all samples except in sample number 7122-1.

3.6 Plutonium-238, 239/240 Analyses: The average yield for nine analyses was (60 ± 13)%. The lowest yield was 47% and the highest was 71%. The average MDA was (0.04 ± 0.02) pCi/g. Positive plutonium concentration above RDL was not found in any of the samples.

3.7 Americium-241 Analyses: The average yield for nine analyses was (53 ± 52)%. The lowest yield was 12% and the highest yield was 84%. The average MDA was (0.05 ± 0.05) pCi/g. Positive americium concentration above the RDL was not found in any of the samples. The MDA of sample number 7122-3 was higher than RDL due to low chemical recovery.

3.8 Gamma Scan Analyses: The underlined MDA's of samples were for ^{59}Fe, higher than RDL due to the short half-life of ^{59}Fe. Positive ^{60}Co and ^{137}Cs above RDL was found in sample numbers 7122-2 and 3. Positive ^{137}Cs above RDL was found in sample numbers 7122-4 and 6.

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3/16/93

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TMA

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REPORTING GROUP 7122

N211059-09

B07HJ1

REPLICATE

SDG 7122

Contact Dinkar Kharkar

Client Westinghouse Hanford

Contract MBH-SVV-069262

REPLICATE

Lab sample id N211059-09

Dept sample id 7122-009

ORIGINAL

Lab sample id N211059-01

Dept sample id 7122-001

Received 11/02/92

% moisture 0.0

Client sample id B07HJ1

Matrix SOIL

Collected 10/27/92

Chain of custody id EFL-1051

PARAMETER	REPLICATE pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST	ORIGINAL pCi/G	2σ ERR (COUNT)	MDA pCi/G	QUALI-FIERS	RPD %	3σ PRO TOT LIMI
Gross Alpha	0.013	3.1	5	10	U	80A	0.071	3.4	6	U	-	
Gross Beta	2.4	2.3	4	10	U	80B	0.94	2.8	5	U	-	
Uranium 233/234	0.16	0.090	0.1	0.3	J	U	0.042	0.042	0.05	U	117	148
Uranium 235	0.071	0.072	0.1	0.3	U	U	0	0.017	0.06	U	-	
Uranium 238	0.059	0.059	0.1	0.3	U	U	0.049	0.042	0.05	U	-	
Plutonium 238	-0.003	0.014	0.03	0.05	U	PU	0	0.017	0.03	U	-	
Plutonium 239/240	-0.007	0.007	0.03	0.05	U	PU	0	0.004	0.02	U	-	
Americium 241	0	0.027	0.05	0.05	U	AM	0	0.016	0.03	U	-	
Strontium 90	0.25	0.23	0.8	1	U	Y	0.12	0.23	0.9	U	-	
Carbon 14	-3.2	7.3	20	50	U	C	-3.8	8.2	20	U	-	
GAMMA SCAN ANALYTES												
Potassium 40	1.3	1.1				GAM	0.44	0.28			99	199
Iron 59	U		0.6	0.05	U	GAM	U		0.2	U	-	
Chromium 51	U		5		U	GAM	U		1	U	-	
Cobalt 60	U		0.09	0.05	U	GAM	U		0.04	U	-	
Zinc 65	U		0.3		U	GAM	U		0.06	U	-	
Ruthenium 106	U		0.9		U	GAM	U		0.2	U	-	
Cesium 134	U		0.1		U	GAM	U		0.03	U	-	
Cesium 137	U		0.08	0.05	U	GAM	U		0.02	U	-	
Europium 152	U		0.1	0.1	U	GAM	U		0.05	U	-	
Europium 154	U		0.08	0.1	U	GAM	U		0.04	U	-	
Radium 226	U		0.2		U	GAM	0.098	0.035			68	207
Thorium 228	U		0.1		U	GAM	0.17	0.044			52	126
Thorium 232	U		0.4		U	GAM	0.13	0.071			102	233

Lab id TMAN

Protocol WHC-HEIS

Version Ver 1.0

Form DVD-REP

Version 2.23

Report date 02/23/93

9613492.8274

TMA

N211059-01

TMA NORCAL
REPORTING GROUP 7122

DATA SHEET

B07HJ1

SDG	7122	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211059-01	Client sample id	B07HJ1
Dept sample id	7122-001	Matrix	SOIL
Received	11/02/92	Collected	10/27/92
% moisture	0.0	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TE
Gross Alpha	Alpha	0.071	3.4	6	10	U	8(
Gross Beta	Beta	0.94	2.8	5	10	U	8(
Uranium 233/234		0.042	0.042	0.05	0.3	U	U
Uranium 235	15117-96-1	0	0.017	0.06	0.3	U	U
Uranium 238	7440-61-1	0.049	0.042	0.05	0.3	U	U
Plutonium 238	13981-16-3	0	0.017	0.03	0.05	U	PU
Plutonium 239/240		0	0.004	0.02	0.05	U	PU
Americium 241	14596-10-2	0	0.016	0.03	0.05	U	AM
Strontium 90	10098-97-2	0.12	0.23	0.9	1	U	Y
Carbon 14	14762-75-5	-3.8	8.2	20	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	0.44	0.28				GP
Iron 59		U		0.2	0.05	U	GP
Chromium 51	14392-02-0	U		1		U	GP
Cobalt 60	10198-40-0	U		0.04	0.05	U	GP
Zinc 65	17982-39-3	U		0.06		U	GP
Ruthenium 106	13967-48-1	U		0.2		U	GP
Cesium 134	17967-70-9	U		0.03		U	GP
Cesium 137	10045-97-3	U		0.02	0.05	U	GP
Europium 152	14683-23-9	U		0.05	0.1	U	GP
Europium 154	15585-10-1	U		0.04	0.1	U	GP
Radium 226	13982-67-7	0.098	0.035				GP
Thorium 228	14274-82-9	0.17	0.044				GP
Thorium 232	7440-29-1	0.13	0.071				GP

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	02/23/9

9613492.8275

TMA

N211059-02

TMA NORCAL
REPORTING GROUP 7122

DATA SHEET

B07HJ2

SDG	7122	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211059-02	Client sample id	B07HJ2
Dept sample id	7122-002	Matrix	SOIL
Received	11/02/92	Collected	10/27/92
% moisture	3.2	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TE
Gross Alpha	Alpha	4.3	4.8	6	10	U	8C
Gross Beta	Beta	20	4.8	6	10		8C
Uranium 233/234		0.50	0.15	0.07	0.3		U
Uranium 235	15117-96-1	0	0.021	0.08	0.3	U	U
Uranium 238	7440-61-1	0.56	0.15	0.07	0.3		U
Plutonium 238	13981-16-3	-0.010	0.025	0.05	0.05	U	PU
Plutonium 239/240		0.030	0.020	0.02	0.05	J	PU
Americium 241	14596-10-2	-0.002	0.021	0.04	0.05	U	AM
Strontium 90	10098-97-2	0.63	0.34	0.9	1	U	Y
Carbon 14	14762-75-5	-6.3	8.0	20	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	10	0.78				GP
Iron 59		U		0.5	0.05	U	GP
Chromium 51	14392-02-0	U		3		U	GP
Cobalt 60	10198-40-0	1.0	0.084		0.05		GP
Zinc 65	17982-39-3	U		0.3		U	GP
Ruthenium 106	13967-48-1	U		0.6		U	GP
Cesium 134	17967-70-9	U		0.08		U	GP
Cesium 137	10045-97-3	1.3	0.099		0.05		GP
Europium 152	14683-23-9	7.0	0.21		0.1		GP
Europium 154	15585-10-1	1.2	0.19		0.1		GP
Radium 226	13982-67-7	0.48	0.12				GP
Thorium 228	14274-82-9	0.72	0.064				GP
Thorium 232	7440-29-1	0.77	0.26				GP

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	02/23/93

9613492.8276

TMA

N211059-03

TMA NORCAL
REPORTING GROUP 7122

DATA SHEET

B07HJ3

SDG	7122	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211059-03	Client sample id	B07HJ3
Dept sample id	7122-003	Matrix	SOIL
Received	11/02/92	Collected	10/27/92
% moisture	3.1	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TI
Gross Alpha	Alpha	6.0	5.1	6	10	J	8(
Gross Beta	Beta	17	4.2	5	10		8(
Uranium 233/234		0.55	0.21	0.1	0.3		U
Uranium 235	15117-96-1	0	0.041	0.2	0.3	U	U
Uranium 238	7440-61-1	0.55	0.21	0.1	0.3		U
Plutonium 238	13981-16-3	-0.020	0.022	0.05	0.05	U	P(
Plutonium 239/240		0.016	0.013	0.02	0.05	U	P(
Americium 241	14596-10-2	0.024	0.037	0.07	0.05	U	A
Strontium 90	10098-97-2	0.42	0.27	1	1	U	Y
Carbon 14	14762-75-5	-4.8	7.2	20	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	12	0.89				G
Iron 59		U		0.5	0.05	U	G
Chromium 51	14392-02-0	U		4		U	G
Cobalt 60	10198-40-0	0.46	0.074		0.05		G
Zinc 65	17982-39-3	U		0.3		U	G
Ruthenium 106	13967-48-1	U		0.7		U	G
Cesium 134	17967-70-9	U		0.09		U	G
Cesium 137	10045-97-3	1.5	0.080		0.05		G
Europium 152	14683-23-9	6.4	0.22		0.1		G
Europium 154	15585-10-1	1.1	0.24		0.1		G
Radium 226	13982-67-7	0.50	0.15				G
Thorium 228	14274-82-9	0.66	0.076				G
Thorium 232	7440-29-1	0.47	0.26				G
Europium 155	14391-16-3	0.16	0.14				G

Lab id	TMAN
Protocol	WHC-HEI
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	02/23/9

9613492.8277

TMA

N211059-04

TMA NORCAL
REPORTING GROUP 7122

DATA SHEET

B07HJ6

SDG	7122	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211059-04	Client sample id	B07HJ6
Dept sample id	7122-004	Matrix	SOIL
Received	11/02/92	Collected	10/29/92
% moisture	15.5	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TES
Gross Alpha	Alpha	6.9	4.6	5	10	J	80A
Gross Beta	Beta	12	3.8	5	10		80B
Uranium 233/234		0.39	0.19	0.1	0.3		U
Uranium 235	15117-96-1	0.091	0.092	0.2	0.3	U	U
Uranium 238	7440-61-1	0.45	0.20	0.1	0.3		U
Plutonium 238	13981-16-3	-0.008	0.019	0.04	0.05	U	PU
Plutonium 239/240		0.002	0.008	0.02	0.05	U	PU
Americium 241	14596-10-2	-0.010	0.020	0.05	0.05	U	AM
Strontium 90	10098-97-2	0.22	0.40	0.8	1	U	Y
Carbon 14	14762-75-5	-4.1	6.5	10	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	11	0.78				GAM
Iron 59		U		0.3	0.05	U	GAM
Chromium 51	14392-02-0	U		2		U	GAM
Cobalt 60	10198-40-0	U		0.05	0.05	U	GAM
Zinc 65	17982-39-3	U		0.1		U	GAM
Ruthenium 106	13967-48-1	U		0.4		U	GAM
Cesium 134	17967-70-9	U		0.05		U	GAM
Cesium 137	10045-97-3	0.35	0.049		0.05		GAM
Europium 152	14683-23-9	0.47	0.098		0.1		GAM
Europium 154	15585-10-1	U		0.2	0.1	U	GAM
Radium 226	13982-67-7	0.44	0.092				GAM
Thorium 228	14274-82-9	0.74	0.065				GAM
Thorium 232	7440-29-1	0.78	0.21				GAM

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	02/23/93

9613492.8278

TMA

N211059-05

TMA NORCAL
REPORTING GROUP 7122

DATA SHEET

B07HJ7

SDG	7122	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211059-05	Client sample id	B07HJ7
Dept sample id	7122-005	Matrix	SOIL
Received	11/02/92	Collected	10/29/92
% moisture	2.0	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TE
Gross Alpha	Alpha	6.6	4.1	5	10	J	80
Gross Beta	Beta	18	4.4	6	10		80
Uranium 233/234		0.44	0.18	0.1	0.3		U
Uranium 235	15117-96-1	0	0.041	0.2	0.3	U	U
Uranium 238	7440-61-1	0.32	0.14	0.1	0.3		U
Plutonium 238	13981-16-3	-0.005	0.010	0.03	0.05	U	PU
Plutonium 239/240		0.003	0.010	0.02	0.05	U	PU
Americium 241	14596-10-2	0.017	0.033	0.05	0.05	U	AM
Strontium 90	10098-97-2	0.65	0.29	1	1	U	Y
Carbon 14	14762-75-5	-10	9.5	20	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	16	1.2				GA
Iron 59		U		0.4	0.05	U	GA
Chromium 51	14392-02-0	U		2		U	GA
Cobalt 60	10198-40-0	U		0.06	0.05	U	GA
Zinc 65	17982-39-3	U		0.2		U	GA
Ruthenium 106	13967-48-1	U		0.5		U	GA
Cesium 134	17967-70-9	0.056	0.041				GA
Cesium 137	10045-97-3	U		0.05	0.05	U	GA
Europium 152	14683-23-9	U		0.1	0.1	U	GA
Europium 154	15585-10-1	U		0.07	0.1	U	GA
Radium 226	13982-67-7	0.50	0.10				GA
Thorium 228	14274-82-9	0.66	0.059				GA
Thorium 232	7440-29-1	0.77	0.20				GA

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	02/23/93

9613492.8279

TMA

N211059-06

TMA NORCAL
REPORTING GROUP 7122

DATA SHEET

B07HJ8

SDG	7122	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211059-06	Client sample id	B07HJ8
Dept sample id	7122-006	Matrix	SOIL
Received	11/13/92	Collected	11/09/92
% moisture	5.3	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	T
Gross Alpha	Alpha	4.4	4.1	5	10	U	8
Gross Beta	Beta	8.9	4.3	6	10	J	8
Uranium 233/234		0.54	0.21	0.2	0.3		U
Uranium 235	15117-96-1	0	0.048	0.2	0.3	U	U
Uranium 238	7440-61-1	0.36	0.17	0.2	0.3		U
Plutonium 238	13981-16-3	0.005	0.009	0.02	0.05	U	P
Plutonium 239/240		0	0.009	0.02	0.05	U	P
Americium 241	14596-10-2	0.005	0.011	0.02	0.05	U	A
Strontium 90	10098-97-2	0.22	0.23	0.9	1	U	Y
Carbon 14	14762-75-5	-1.6	8.3	20	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	12	0.96				G
Iron 59		U		0.3	0.05	U	G
Chromium 51	14392-02-0	U		2		U	G
Cobalt 60	10198-40-0	U		0.06	0.05	U	G
Zinc 65	17982-39-3	U		0.1		U	G
Ruthenium 106	13967-48-1	U		0.5		U	G
Cesium 134	17967-70-9	U		0.08		U	G
Cesium 137	10045-97-3	0.14	0.050		0.05		G
Europium 152	14683-23-9	0.12	0.094		0.1		G
Europium 154	15585-10-1	U		0.2	0.1	U	G
Radium 226	13982-67-7	0.49	0.092				G
Thorium 228	14274-82-9	1.1	0.11				G
Thorium 232	7440-29-1	0.71	0.24				G

Lab id	TMAN
Protocol	WHC-HEI
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	02/23/9

9613492.0280

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-KR-1

Collection Date: 10-27-92

Ice Chest No.: SML 166

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.: 251900 6468

Offsite Property No.: W93-0-0002-#3

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B07HJ1
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2) B07HJ2
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3) B07HJ3
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	Kermit Blum	11-2-92 0800 *
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/Norcal 10-31-92 ; opened 11-2-92 · KI

048

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9613492.8281

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector W.W. SETZER Date 10·30·92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B07HJ1	S	10·27·92	0930	✓1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓1-120ml aG CLP;VOA ✓1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) ✓1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07HJ2	S	10·27·92	1315	✓1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓1-120ml aG CLP;VOA ✓1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) ✓1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07HJ3	S	10·27·92	1400	✓1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓1-120ml aG CLP;VOA ✓1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) ✓1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST WOS 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G ~~Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ U-235/238,~~Pu-239/240~~,Am-241

*Type of Sample

A = Air	L = Liquid	SE = Sediment	T = Tissue	X = Other
DL = Drum Liquids	O = Oil	SL = Sludge	W = Water	
DS = Drum Solids	S = Soil	SO = Solid	WI = Wipe	

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

049

A-6000-406 (06/91) WEF060

9613492.8282

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-KR-1

Collection Date: 10-29-92

Ice Chest No.: SML 240

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.: 251900 6468

Offsite Property No.: W93-0-0002#3

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B07HJ6
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2) B07HJ7
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3)
- ~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
- ~~1,120ml aG:CLP;VOA~~
- ~~1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2~~ WWS
- ~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	Kermit Blum	11-2-92 0800 *
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/Norcal 10-31-92; opened 11-2-92 KB

050

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9613492.8283

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector W.V. SETZER Date 10-30-92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B07H56	S	10-29-92	0900	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07H57	S	10-29-92	1304	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241 WVS
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

*Type of Sample A = Air; DL = Drum Liquids; DS = Drum Solids; L = Liquid; O = Oil; S = Soil; SE = Sediment; SL = Sludge; SO = Solid; T = Tissue; W = Water; WI = Wipe; X = Other

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

FORM OF PAYMENT

☐ GBL ☐ FCCOD ☐

[X] Bill to Consignee [ ] Third Party Billing ☐

Shipper's Account Number: 950281585

EMERY WORLDWIDE — A CF Company

SERVICES **

UNITED STATES / CANADA: Same Day (Extra Charges) ☐; AM ☐; Second Day ☐; PM ☐; Saturday Delivery [X]

INTERNATIONAL: Express ☐; Standard Plus ☐; Preferred ☐; Standard ☐; Business Documents ☐; Customs Clearance ☐; Delivery ☐

Date: 10-30-92 | Origin: PBC | Shipment Number: 251900646 8

Tariff Dest. | Gateway

To:

ESTINGHOUSE SHIPPING DEPT (509) 376-6665
.S. DEPARTMENT OF ENERGY C/O
TINGHOUSE HANFORD
BLDG 1163
5 STEVENS DRIVE
HLAND WA Canada ☐

~~[illegible]~~ ROBERT FOX
TRA/NORCAL
2030 WRIGHT AVENUE
RICHMOND CA Canada ☐

Hold for Pick.Up ☐

Check to Shipper $

EMERY WORLDWIDE will accept Consignee check with all risks being assumed by Shipper, including but not limited to non-payment, fraud and misrepresentatior

Customer's Reference Numbers: 200 PBBA5 W93-0-0002#31

Zip: 99352 | E | Consignee's Account Number | Zip: 94804

FOR INFORMATION OR RATES CALL 1-800 44 EMERY (1-800-448-6379)

Declared Value $

Description	Pcs.	L	W	H	Total Pieces	Total Weight (in Lbs.)
OOLERS ID: SML 166 ; SM1 240 62# L SAMPLES	2	29	16	17	2	135

251900646 8

Remarks: URDAY DELIVERY

X J. Cerrano 10/30/92

Zip Ship ☐ — For shipments within the 50 United States Shipper has the option to check this box and, by checking, agrees that the Zip Ship conditions, described in the area to the right, apply.

Mark if Emery Packaging is used: Urgent Letter 9X12 ☐; Urgent Pack 12X15 ☐

International Shipments: Commodity Code

Third Party Account Number mandatory for Third Party Billing. | E | Third Party Account Number

International Customs Value | International Insurance

Total Transportation Charges | Other Charges/Advance at Origin ☐ OC/AO- $

1-OAK-SA

Terms and Conditions on Back

052

/ARLI
-HOUR RECEIVING OF EPA/CLP SAMPLES

Form: SCP-6-2
Rev. No. 01
Rev. Date: 7/29/91
Page No. _____

TAINER ID	RECEIVED		RELINQUISHED		TRANSPORTATION MODE	AIR BILL #	CONTAINER CONDITION		CONTAINER SEAL		HOLDING LOCATION
	DATE	TIME	DATE	TIME			INTACT	NOT INTACT	INTACT	NOT INTACT	
hite cler	DATE 10-31-92	TIME 3:30	DATE	TIME	EMERY	251-900-646-8	X		X		WA/hrin
	BY		BY								
↓	DATE	TIME	DATE	TIME		251-900-646-8	X		X		
	BY		BY								
xclers	DATE	TIME	DATE	TIME		251-900-641-3	X		X		
	BY		BY								
all cler	DATE	TIME	DATE	TIME		252-156-855 5	X		X		
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								

9613492.8285

9613492.8286

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-KR-1

Collection Date: 11.9.92

Ice Chest No.: SML 242

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.: 2519006919

Offsite Property No.: W98-0-0002 #41

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B07HJ8
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2)
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3)
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn WVS
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	James Reeves	11-12/92 09:50
James Reeves	Kermit Blum KB	11-12/92 11:40
	Kermit Blum	11-13-92 1400

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

054

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9613492.8287

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector W.W. SETZER Date 11-12-92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
BD7HJ8	S	11-9-92	0940	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA WWS 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

S A A

*Type of Sample

A = Air	L = Liquid	SE = Sediment	T = Tissue	X = Other
DL = Drum Liquids	O = Oil	SL = Sludge	W = Water	
DS = Drum Solids	S = Soil	SO = Solid	WI = Wipe	

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards ~~NA~~ WWS NONE DETECTED

055

A-6000-406 (06/91) WEF060

FORM OF PAYMENT

ck ☐ GBL ☐ FCCOD ☐

to ☐ Bill to Consignee ☐ Third Party Billing ☐

Shipper's Account Number: 850281585

EMERY WORLDWIDE

A CF Company

SERVICES **

UNITED STATES / CANADA: Same Day (Extra Charges) ☐ AM ☐ PM ☐ Second Day ☐ Saturday Delivery ☐

INTERNATIONAL: Express ☐ Standard Plus ☐ Preferred ☐ Standard ☐ Business Documents ☐ Customs Clearance ☐ Delivery ☐

Date: 11-12-92 | Origin: PSC | Shipment Number: 251900691

Tariff Dest. | Gatew

WESTINGHOUSE SHIPPING DEPT (509) 376-6665
U.S. DEPARTMENT OF ENERGY C/O
STINGHOUSE HANFORD
BLDG 1163
55 STEVENS DRIVE
CHLAND WA

Canada ☐

To: DELORES SANCHEZ
TMA/NORCAL
2030 WRIGHT AVENUE
RICHMOND CA

Hold for Pick Up ☐ Canada ☐

Check to Shipper $

EMERY WORLDWID will accept Consign check with all risk being assumed by Shipper, including but not limited to non-payment, frau and misrepresentat

Customer's Reference Numbers: 12200 P131b W93-0-0002 #41

Zip: 99352

E Consignee's Account Number: 94804

Description	Pcs.	L	W	H	Total Pieces	Total Weight (In Lbs.)
COOLER ID: SMU 242 OIL SAMPLES 07HJ8	1	20	16	17	1	53

FOR INFORMATION OR RATES CALL 1-800 44 EMERY (1-800-443-6379)

Declared Value $

251900691 9

Remarks: ERNIGHT DELIVERY

Zip Ship ☐ — For shipments within the 50 United States Shipper has the option to check this box and, by checking, agrees that the Zip Ship conditions, described in the area to the right, apply.

Mark if Emery Packaging is used: Urgent Letter 9X12 ☐ Urgent Pack 12X15 ☐

Signature: 11/12/92

International Shipments: Free Domicile ☐ Commodity Code

Third Party Account Number mandatory for Third Party Billing. E Third Party Account Number

International Customs Value | International Insurance

Charge

Total Transportation Charges | Other Charges/Advance at Origin ☐ OC/AO- $

1-OAK-A

Terms and Conditions on Back

056

EMERY

Overnight Delivery

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
Westinghouse Hanford Company		W98-0-0002 #41

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env Eng & Geotech	EFSG	Env Charac & Sampling

The following items are to be shipped from: ☒ Contractor ☐ Vendor

Routing: Air ☒ Contractor ☐ Vendor

Shipped to: TMA/NORCAL
2030 WRIGHT AVE
RICHMOND, CA 94804

Off-site Custodian: 1.11.92 ~~Robert Fox~~ DELOIES SANCHEZ

Full Title: Project Coordinator

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 53 lbs.	SML 242 poly cooler. Contains soil samples that are double-bagged and packed in wet ice and vermiculite. Samples are nonhazardous. Sample #: B0711J8	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

To support drilling and sampling at the 100 Areas

Bill of Lading: 2519006919

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	112412	11/11/92

Location of Property (Area & Bldg.)	Contact	Phone
100 Area	W. V. Setzer	376-2413

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
11-12-92	P1313 [illegible] 12200	N/A

Originated By: / Relinquished By:	Date/Time	Authorized By	Date
[illegible] / [illegible]	11-12-92 11:40	W. V. Setzer	11-12-92
Signature and Name of Property Control	**Custodian Date**	**Property Management Approval**	**Date**
		[illegible]	11/12/92

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
[illegible]				057
Date: 11-12-92				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:	
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain	Green – Property Control Custodian (Issuing Office) Pink – Originator

Icechest Temperature Log

Use one form per shipment.
Refer to Thermometer Correction Log for correction factor.

Customer: HANFORD Date: 11/13/92

icechest # or description	thermometer reading	thermometer number	correction factor	actual temperature *
-SML.242	2C	#151	Ø	
SML.140	2C	#104		

* After 20 minutes if thermometer is not already present.
Temperature is in degrees centigrade.

Technician: KB

ICETEMP.TXT

B07HK1-TMA-379 B07HK1-TMA-379

000001

RECORD COPY

FEB 1993
RECEIVED
OSM DMO

CASE NO. 11-047

DATA SUMMARY REPORT
ORGANICS

PREPARED BY:

TMA ARLI
160 TAYLOR ST.
MONROVIA CA 91016

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 11-047

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : November 17, 1992

1.0 DESCRIPTION OF CASE :

Two soil samples were analyzed for TCL Organics-Volatiles, Semivolatiles, Pesticides/PCBs according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, Revision OLM01.8.

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	ANALYSIS REQUESTED	MATRIX
B07HK1	A2-11-047-01A	V	SOIL
B07HK1 MS	A2-11-047-01B	V	SOIL
B07HK1 MSD	A2-11-047-01C	V	SOIL
B07HK1	A2-11-047-01D	SV & P	SOIL
B07HK2	A2-11-047-02A	V	SOIL
B07HK2	A2-11-047-02B	SV & P	SOIL
B07HK2 MS	A2-11-047-02C	SV & P	SOIL
B07HK2 MSD	A2-11-047-02D	SV & P	SOIL

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

All of the samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were analyzed by heated purge within the CLP SOW holding times.

All of the QC results were within the limits specified by the EPA CLP SOW.

TUNES :

All of the BFB tunes are injected directly into the GC/MS instrument.

3.2.2 SEMIVOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. Sample B07HK2MSD had a Terphenyl-d14 surrogate recovery slightly above the QC limits. In accordance with protocol, no further action was required.

All of the other QC results were within the limits specified by the EPA CLP SOW.

3.2.3 PESTICIDE/PCB ANALYSIS :

SEQUENCE NOTES :

The sequence was started on 12/21/92 and analyzed in accordance with the EPA CLP SOW. The sequence was analyzed by single injection into a dual column system. After the injection on 12/22/92, at 04:31 AM, the autosampler malfunctioned. After maintenance the sequence was resumed with the injection of PIBLK03 on 12/22/92 at 07:53 AM and was followed by PEM03. The samples that were injected between PEM02 and PEM03 were re-injected later in the sequence. The sequence met all the QC criteria specified in the CLP SOW.

The Chromatograms are presented in the manner consistent with the capabilities of the Nelson 2700 Turbochrome Data System which normalizes the largest peak to scale.

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. Samples B07HK2MS and B07HK2MSD had very high matrix spike recoveries for gamma-BHC on the DB-608 column. The high recoveries were due to the co-elution of a matrix interference peak with gamma-BHC on the DB-608 column. However, the peaks were completely separated on the DB-1701 column. Therefore, the percent difference between the two GC columns exceeded the 25% limit. Hence, the gamma-BHC results have been "P" qualified. Sample B07HK2MS also exceeded the retention time window for gamma-BHC by 0.01 minutes on the DB-608 column due to the co-elution of an interference peak.

All of the other results were within the limits specified by the EPA CLP SOW.

We 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 in this hardcopy data package and in the computer-readable data submitted on diskette is authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Nicole Roth
CLP Program Manager

Wida Ang
Organics Supervisor

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HK1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21120R10

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: not dec. 2 Date Analyzed: 11/20/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	27	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

9613492.8296

000006

EPA SAMPLE NO.

B07HK1

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21120R10

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: not dec. 2 Date Analyzed: 11/20/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613492.8297

000007
EPA SAMPLE NO.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

B07HK2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21120R13

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: not dec. 2 Date Analyzed: 11/20/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	23	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	5	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

9613492.8298

000008

EPA SAMPLE NO.

B07HK2

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21120R13

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: not dec. 2 Date Analyzed: 11/20/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613492.8299

000009
EPA SAMPLE NO.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07HK1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 21130S11

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	800	U

9613492.8300

000010

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HK1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 21130S11

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	800	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	800	U
534-52-1	4,6-Dinitro-2-methylphenol	800	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	800	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	330	U
218-01-9	Chrysene	330	U
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

9613492.8301

000011
EPA SAMPLE NO.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B07HK1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 21130S11

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.42	24000	BJ
2.	UNKNOWN HYDROCARBON	5.67	75000	BJ
3.	UNKNOWN HYDROCARBON	6.00	200	BJ
4.	UNKNOWN HYDROCARBON	6.48	3100	BJ
5.	UNKNOWN HYDROCARBON	6.70	130	BJ
6.	UNKNOWN KETONE	6.95	200	BJ
7.	UNKNOWN ALKANE	7.07	300	BJ
8.	UNKNOWN HYDROCARBON	7.32	100	J
9.	HEXANEDIOIC ACID ISOMER	24.33	67	BJ

9613492.B302

000012

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HK2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-02B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21130S12

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	810	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	810	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	810	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	810	U

9613492.8503

000013

EPA SAMPLE NO.

B07HK2

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-02B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21130S12

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	810	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	98	J
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	810	U
534-52-1	4,6-Dinitro-2-methylphenol	810	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	810	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	330	U
218-01-9	Chrysene	330	U
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

B07HK2

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-02B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21130S12

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.38	23000	BJ
2.	UNKNOWN HYDROCARBON	5.65	120000	BJ
3.	UNKNOWN HYDROCARBON	5.98	200	BJ
4.	UNKNOWN HYDROCARBON	6.48	3100	BJ
5.	UNKNOWN HYDROCARBON	6.70	100	BJ
6.	UNKNOWN KETONE	6.93	200	BJ
7.	UNKNOWN ALKANE	7.07	130	BJ
8.	UNKNOWN ALCOHOL	8.05	100	J
9.	HEXANEDIOIC ACID ISOMER	24.33	67	BJ
10.	UNKNOWN ALKANE	26.58	130	J

9613492.8305

000013

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HK1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-01D

Sample wt/vol: 30.3 (g/mL) G Lab File ID: _____

% Moisture: 2 decanted: (Y/N) N Date Received: 11/17/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/19/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 12/22/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.6 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-36-3	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	68	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

9613492.8306

000016

EPA SAMPLE NO.

B07HK2

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-02B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

% Moisture: 2 decanted: (Y/N) N Date Received: 11/17/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/19/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 12/22/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.6 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	68	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

9613492.8307

TMA
Thermo Analytical Inc.

Skinner & Sherman Labs., Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200
FAX (617) 890-3883

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January 5, 1993

TMA/NORCAL
2030 Wright Avenue
Richmond, CA 94804
Attention: Dan Stuermer

Quality Control Narrative

Scope
Two (2) soil samples were submitted to TMA/Skinner & Sherman Laboratories, Inc. on November 18, 1992 from TMA/Norcal. The samples were analyzed for the USEPA CLP Target Analyte List metals and cyanide. The analysis were performed under TMA/Skinner and Sherman work order S211253.

Methodology
The samples were prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work ILM02.

Discussion
All quality control requirements were met for the samples with the following exceptions;

The antimony, copper and cyanide digestion spike recovery exceeded the control limit requirements.

The ICP serial dilution for zinc exceeded the control limit requirements.

The copper laboratory duplicates exceeded the control limit requirements.

Please feel free to call if there are any questions concerning this package.

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

David N. Peterson
Assistant Laboratory Manager

WESTINGHOUSE/HANFORD

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-133 SAS No.: SDG No.: B07HK1

SOW No.: ILM03.0

SAMPLE NUMBER:	Lab Sample ID.
B07HK1	11253-01S
B07HK2	11253-02S
B07HK2D	11253-02S2
B07HK2S	11253-02DS

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: Steven R Provencal Name: Steven R. Provencal

Date: 001 1/5/93 Title: Lead Chemist

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HK1

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-133SAS No.: SDG No.: B07HK1

Matrix (soil/water): SOIL Lab Sample ID: 11253-01S

Level (low/med): LOW Date Received: 11/18/92

% Solids: 93.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6330			P
7440-36-0	Antimony	3.2	U	N	P
7440-38-2	Arsenic	1.4	B		F
7440-39-3	Barium	64.5			P
7440-41-7	Beryllium	0.23	B		P
7440-43-9	Cadmium	0.19	U		P
7440-70-2	Calcium	3890			P
7440-47-3	Chromium	17.2			P
7440-48-4	Cobalt	5.8	B		P
7440-50-8	Copper	37.8		N*	P
7439-89-6	Iron	11600			P
7439-92-1	Lead	2.6			F
7439-95-4	Magnesium	3760			P
7439-96-5	Manganese	249			P
7439-97-6	Mercury	0.13			CV
7440-02-0	Nickel	9.1			P
7440-09-7	Potassium	1180			P
7782-49-2	Selenium	0.76	U		F
7440-22-4	Silver	0.86	B		P
7440-23-5	Sodium	387	B		P
7440-28-0	Thallium	0.74	U	W	F
7440-62-2	Vanadium	25.8			P
7440-66-6	Zinc	39.0		E	P
	Cyanide	0.52	U	N	CA

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

002

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:
B07HK2

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-133SAS No.: SDG No.: B07HK1

Matrix (soil/water): SOIL Lab Sample ID: 11253-02S

Level (low/med): LOW Date Received: 11/18/92

% Solids: 91.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5680			P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	1.4	B		F
7440-39-3	Barium	122			P
7440-41-7	Beryllium	0.58	B		P
7440-43-9	Cadmium	0.20	U		P
7440-70-2	Calcium	3490			P
7440-47-3	Chromium	14.9			P
7440-48-4	Cobalt	6.1	B		P
7440-50-8	Copper	30.7		N*	P
7439-89-6	Iron	12700			P
7439-92-1	Lead	3.0			F
7439-95-4	Magnesium	3810			P
7439-96-5	Manganese	284			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	10.1			P
7440-09-7	Potassium	1220			P
7782-49-2	Selenium	0.79	U		F
7440-22-4	Silver	1.5	B		P
7440-23-5	Sodium	337	B		P
7440-28-0	Thallium	0.77	U	W	F
7440-62-2	Vanadium	23.3			P
7440-66-6	Zinc	35.5		E	P
	Cyanide	0.53	U	N	CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

003

9613492.8311

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-11-133

RCVD: 11/17/92 DUE: 12/17/92 11/17/92 15:23:23 KEEP: 03/17/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-S	B07HK1	S&S	WH001	WH002	WH004	WH005	WH233
02B-S	B07HK2	S&S	WH001	WH002	WH004	WH005	WH233
02F-S	B07HK2 MS	S&S	WH001	WH002	WH004	WH005	WH233
02G-S	B07HK2 DUP	S&S	WH001	WH002	WH004	WH005	WH233
02H-S	L C S	S&S	WH001	WH002	WH004	WH005	WH233

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
ey	11-17-92	Skinner	11-17-92	[illegible]	11/18/92

173

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TMA

Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

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Report for

TMA/Norcal

WORK ORDER #S211254

Scientific Services Since 1922

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

9613492.8313

000001

2/15/93

 Skinner&Sherman REPORT Work Order # S2-11-254

Received: 11/18/92 12/29/92 15:39:36

REPORT TMA/NORCAL
TO 2030 Wright Avenue
Richmond, CA 94804

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 3
COMPANY TMA/NORCAL
FACILITY Richmond, CA

PREPARED TMA / Skinner & Sherman Labs.
BY 300 Second Avenue
P.O. Box 521
Waltham, MA 02254

ATTEN Client Services
PHONE (617) 890-7200

CERTIFIED BY

CONTACT DP

WORK ID N2-11-133
TAKEN By Client
TRANS Fedex #5188042101
TYPE 2 Soils For NO3NO2
P.O. # N2-11-133
INVOICE under separate cover

SAMPLE IDENTIFICATION	
01	B07HK1
02	B07HK2
02	B07HK2D
02	B07HK2S
03	LCSS

TEST CODES and NAMES used on this workorder

NO3NO2 Nitrate Plus Nitrite

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfi
Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Cli
will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invo
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exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held
thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

9613492.8314

000002

 Skinner&Sherman REPORT Work Order # S2-11-254

Received: 11/18/92 Results by Sample

SAMPLE ID B07HK1 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 <2.45
mg N/kg

SAMPLE ID B07HK2 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 <2.43
mg N/kg

SAMPLE ID B07HK2D SAMPLE # 02 FRACTIONS: B
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 <2.44
mg N/kg

SAMPLE ID B07HK2S SAMPLE # 02 FRACTIONS: C
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 20.8
mg N/kg

SAMPLE ID LCSS SAMPLE # 03 FRACTIONS: A
Date & Time Collected not specified Category SOIL

NO3NO2 1.94
mg N/L

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfi Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Cli will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invo amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

9613492.8315

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-11-133 000040

RCVD: 11/17/92 DUE: 12/17/92 11/17/92 15:23:23 KEEP: 03/17/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-S	B07HK1	S&S	WH001	WH002	WH004	WH005	WH233
02B-S	B07HK2	S&S	WH001	WH002	WH004	WH005	WH233
02F-S	B07HK2 MS	S&S	WH001	WH002	WH004	WH005	WH233
02G-S	B07HK2 DUP	S&S	WH001	WH002	WH004	WH005	WH233
02H-S	L C S	S&S	WH001	WH002	WH004	WH005	WH233

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
ey	11-17-92	Skinner	11-17-92	[illegible]	11/18/92

9613492.8516

TMA

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FEB 1993
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WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

ORGANICS & GENERAL CHEMISTRY
Case No. 11-047
(TMA/ARLI Work Order # A2-11-047)

METALS & NITRATE/NITRITE
Case No. N2-11-133
(TMA/Skinner & Sherman W.O. # S2-11-253 & S2-11-254)

February 1, 1993

TMA Master Work Order N2-11-133

9613492.8317

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

GENERAL CHEMISTRY
CASE NO. 11-047
(TMA/ARLI Work Order # A2-11-047)

ORGANICS
CASE NO. 11-047
(TMA/ARLI Work Order # A2-11-047)

General Chemistry and Organics results are presented for the following WHC SOIL sample(s):

B07HK1 B07HK2

Norcal Work Order # N2-11-133

Thermo Analytical Inc.
160 Taylor Street
Monrovia, CA 91016
(818) 357-3247

9613492.8319

KEEP: 03/17/93 DISP: S

000002

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01A-S	B07HK1	ARLI	: WH014	WH015	WH016	WH217	WH232
02A-S	B07HK2	ARLI	: WH014	WH015	WH016	WH217	WH232
02C-S	B07HK2 MS	ARLI	: WH014	WH015	WH016	WH232	
02D-S	B07HK2 MSD	ARLI	: WH014	WH015	WH016		
02E-W	B07HK2 DUP	ARLI	: WH217	WH232			

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	11-17-92	ARLI	11-17-92	[illegible]	11/18/92

9613492.8319

000021

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: WV SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-KR-1

Collection Date: 11-12-92

Ice Chest No.: SML 275

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.: 2519006974

Offsite Property No.: W93-0-0002 #4

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) EX-THK1
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2) BO7HK2
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3)
- ~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, ~~Anions~~ (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,~~C-14,U-235~~/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	Kermit Blum	11-17-92 1130
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Dispo[illegible] by:	Date/Time:

Comments:

Original - file Kames TMA COC KR1

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9613492.8520

000002B

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector WW SETZER Date 11-16-92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B07HK1	S	11-12-92	1040	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07HK2		11-12-92	1414	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

*Type of Sample					
	A = Air	L = Liquid	SE = Sediment	T = Tissue	X = Other
	DL = Drum Liquids	O = Oil	SL = Sludge	W = Water	
	DS = Drum Solids	S = Soil	SO = Solid	WI = Wipe	

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

9613492.8321

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI

PAGE : 1 000003

RECEIVED BY (PRINT NAME): Trudy Golub

LOG-IN-DATE : 11/18/92

RECEIVED BY (SIGNATURE): Trudy Golub

CASE NUMBER:
SAMPLE DELIVERY GROUP NO.:
SAS NUMBER:

REMARKS: SMC 196

1. Custody Seal(s) Present/Absent* Intact/Broken
2. Custody Seal Nos:
3. Chain of Custody Records Present/Absent*
4. Traffic Reports or Packing List Present/Absent*
5. Airbill Airbill/Sticker Present/Absent*
6. Airbill No.: 8188042193
7. Sample Tags Present/Absent*
8. Sample Tags Numbers Listed/Not Listed on Chain of Custody
9. Sample Condition: Intact/Broken*/Leaking
10. Does information on custody records, traffic reports, and sample tags agree Yes/No*
11. Date Recieved at Lab: 11/18/92
12. Temp of ice chest 0 °C
13. Time Recieved: 1000

SAMPLE TRANSFER

Fraction:
Area #:
By:
On:

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B07PF1	A2-11-049-15	
	B07PE0	A2-11-049-28	
	B07P84	" - " - " -26	
	B07PC4	" - " - " - 13	
	B07PD8	" - " - " - 18	
	B07P99	" - " - " - 06	
	B07PD9	" - " - " - 19	
	B07PC3	" - " - " - 12	ONE VOA VIAL HAS BUBBLE
	B07PD6	" - " - " -16	
	B07P95	" - " - " - 04	
	B07PC5	" - " - " -14	
	B07PB5	" - " - " - 08	ONE VOA VIAL HAS BUBBLE
	B07PC2	" - " - " -11	
	B07P89	" - " - " - 02	
	B07P98	" - " - " - 05	
	B07P87	" - " - " -30	
	B07P84	" - " - " - 26	
	B07P88	" - " - " - 01	
	B07P78	" - " - " - 22	
	B07PB6	" - " - " - 09	
	B07P85	" - " - " - 27	TWO VOAS HAVE BUBBLES
	B07P94	" - " - " - 03	
	B07P79	" - " - " - 23	
	B07PD7	" - " - " - 17	3 VOA VIALS HAVE BUBBLES
	B07P83	A2-11-049 25	
	B07P66	" - " - " - 20	
	B07PB7	" - " - " - 10	
	B07P82	" - " - " -24	
	B07P86	" - " - " - 29	
	B07P67	" - " - " - 21	3 VOAS - BUBBLE
	B07HK2	A2-11-047-02	

* Contact SMO and attach record of resolution

Reviewed By: Logbook No.:

Date: Logbook Page No.:

FORM BC-1

9613492.B522

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI

PAGE : 2 ~~000004~~

RECEIVED BY (PRINT NAME): Trudy Golus

LOG-IN-DATE : 11/18/92

RECEIVED BY (SIGNATURE): Trudy Golus

CASE NUMBER:

SAMPLE DELIVERY GROUP NO.:

SAS NUMBER:

REMARKS: SMC 1916

1. Custody Seal(s) — Present/Absent* Intact/Broken
2. Custody Seal Nos:
3. Chain of Custody Records — Present/Absent*
4. Traffic Reports or Packing List — Present/Absent*
5. Airbill — Airbill/Sticker Present/Absent*
6. Airbill No.: 5188042193
7. Sample Tags — Present/Absent*
8. Sample Tags Numbers — Listed/Not Listed on Chain of Custody
9. Sample Condition: — Intact/Broken*/Leaking
10. Does information on custody records, traffic reports, and sample tags agree — Yes/No*
11. Date Recieved at Lab: 11/18/92
12. Temp of ice chest 0 °C
13. Time Recieved: 1000

SAMPLE TRANSFER

Fraction:

Area #:

By:

On:

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B074K1	92-11-047-01	

* Contact SMO and attach record of resolution

Reviewed By:

Date:

Logbook No.:

Logbook Page No.:

FORM DC-1

9613492.8323

TMA/ARLI
Thermo Analytical Inc.

000005

RADIATION DOSE RATE SURVEY FORM

Date 11/17/92 COMPANY TMA NORCAL (WHC) OTHER ORD # 5188042193

Surveyor's Name MARK S. McCray

Model No. HP-210 / ESP-1 Model No. AC-3-7 / ESP-1

Serial Nos. 710289 / 02619 Serial Nos. 407726 / 02628

Calibration Date 3/25/92 Calibration Date 8/01/92

Instrument Calibration Factor 0.280 Instrument Calibration Factor 0.188

Sample	Location	HP-210 CPM	HP-210 Factor	HP-210 DPM	AC-3-7 CPM	AC-3-7 Factor	AC-3-7 DPM	Spillage or Breakage?	Activity, uCi/mL or BQ/g
Background		38.0			0				
Consistency		7,430	0.2868		5,014	0.1843			
Smears: SML 196		42.0			0				
Reported (WHC)		34 samples		each	< 50 pCi/gram				

Comments:

All OK ✓ Approved MSM

Not OK Date 11/17/92

Form: ARLI RA-01
Rev: 06

01/15/92

2237M 5188042193

[redacted] Date 11-17-92

RECIPIENT'S COPY

From (Your Name) Please Print: Sample control
Your Phone Number (Very Important): (510-235-2633)
Company: T M A /NORCAL
Department/Floor No.
Street Address: 2030 WRIGHT AVE
City: RICHMOND State: CA ZIP Required: 94804

2 To (Recipient's Name) Please Print: Sample control ( )
Recipient's Phone Number (Very Important)
Company: TMA/ A&L.
Department/Floor No.
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 160 Taylor street
City: MONROVIA State: CA ZIP Required: 91016

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2320.6406

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City State ZIP Required

PAYMENT 1 [✓] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card
5 [ ] Cash/Check

3 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)
11 [✓] YOUR PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon) (No Saturday delivery)
51 [ ] YOUR PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day)
30 [ ] ECONOMY

Government Overnight (Restricted to authorized users only)
46 [ ] GOV'T LETTER
41 [ ] GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
80 [ ] TWO-DAY FREIGHT**
†Delivery commitment may be later in some areas
**Declared Value Limit $500
*Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)
1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [✓] DELIVER WEEKDAY
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE Lbs.
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
10 [ ]
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE
Total | Total 1 52 | Total

DIM SHIPMENT (Chargeable Weight)
[ ] lbs.
L x W x H

Received At
1 [✓] Regular Stop 3 [ ] Drop Box
2 [ ] On-Call Stop 4 [ ] B.S.C. 5 [ ] Station

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip
Received By: X
Date/Time Received FedEx Employee Number

7 Release Signature:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 2/92
PART #137204 FXEM 8/92
FORMAT #126
126
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96 13492 0324

000006

GENERAL CHEMISTRY RESULTS

CASE NO. 11-047

Soil Sample #:

B07HK1 B07HK2

CASE NARRATIVE

The holding time for the pH analysis was exceeded. Careful review of the QC analysis indicate the data is reliable.

No other problems were encountered during sample analysis. All QC results were acceptable.

Ernesto Vazquez

Ernesto Vazquez

9613492.8526

SAMPLE RESULTS

9613492.8327

000009

TNA Inc. REPORT Work Order # A2-11-047

Received: 11/17/92 01/29/93 10:22:12

REPORT TO: Westinghouse Hanford Company
2355 Stevens Dr.
Richland,WA,99352
MO-346/200 West/T6-08
ATTEN: Jeanette Duncan

PREPARED BY: Thermo Analytical, Inc.
160 Taylor Street
Monrovia, CA 91016
ATTEN: Ms. Carole Harris
PHONE: 818-357-3247

CERTIFIED BY: Ernesto Tayag

CONTACT: EVV CIH

CLIENT: WHC SAMPLES: 3
COMPANY: Westinghouse Hanford Company
FACILITY:

This report is for the sole and exclusive use of the client to whom it is addressed and represents only those samples herein described. Samples not destroyed in testing are retained a maximum of 30 days unless otherwise requested.

WORK ID: 100-KR-1
TAKEN: By Westinghouse Staff
TRANS: By Federal Express
TYPE: Soil
P.O. #: N2-11-133-SU-AR
INVOICE: under separate cover

SAMPLE IDENTIFICATION		TEST CODES and NAMES used on this workorder	
01	B07HK1	BNCLPS	CLP Semivol. Sol. - WH016
01	B07HK1 MS	IC AN	Anions Extraction Solids
01	B07HK1 MSD	PECLPS	CLP Pest\PCBs Soil - WH015
01	B07HK1	PH SOL	pH of Solids - WH217
01	B07HK1 MS	VOCLPS	CLP Vol. Org.Soils - WH014
02	B07HK2	WCCLPS	Anions in Solids - WH232
02	B07HK2 MS	WCQCD	Quality Control Summary
02	B07HK2 MSD	WCQCS	Quality Control Summary
02	B07HK2	WF S	Fluoride in Solids
02	B07HK2 Duplicate	WMOIST	Moisture
03	Lab Blank	WSO4 S	Sulfate (in Solids)

TMA Inc. REPORT Work Order # A2-11-047

Received: 11/17/92

Results by Sample

SAMPLE ID B07MK1 FRACTION 01E TEST CODE WCCLPS NAME Anions in Solids - WM232

Date & Time Collected 11/12/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.8	mg/Kg	0.2
pH	9045	9.6	pH	.1
Sulfate	300.0	14	mg/Kg	2.

FORM I

TNA Inc. REPORT Work Order # A2-11-047

Received: 11/17/92

Results by Sample

SAMPLE ID B07NK2 FRACTION 02E TEST CODE VCCLPS NAME Anions in Solids - VM232

Date & Time Collected 11/12/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	1.0	mg/Kg	0.2
pH	9045	9.6	pH	.1
Sulfate	300.0	27	mg/Kg	2.

FORM I

B07HJ9-TMA-352 ~~B07HJ9-TMA-370~~

000001

RECORD COPY

JAN 1993
RECEIVED
OSM DMO

CASE NO. 11-041

DATA SUMMARY REPORT
ORGANICS

PREPARED BY:

TMA ARLI
160 TAYLOR ST.
MONROVIA CA 91016

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 11-041

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : November 13 and November 16, 1992

1.0 DESCRIPTION OF CASE :

Three soil samples were analyzed for TCL Organics-Volatiles, Semivolatiles, Pesticides/PCBs according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, Revision OLM01.8.

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	ANALYSIS REQUESTED	MATRIX
B07HJ9	A2-11-041-01A	V	SOIL
B07HJ9	A2-11-041-01D	SV & P	SOIL
B07HJ9 MS	A2-11-041-01E	SV	SOIL
B07HJ9 MSD	A2-11-041-01F	SV	SOIL
B07HK0	A2-11-041-02A	V	SOIL
B07HK0	A2-11-041-02B	SV & P	SOIL
B07HK0 MS	A2-11-041-02C	P	SOIL
B07HK0 MSD	A2-11-041-02D	P	SOIL
B07HJ8	A2-11-041-03A	V	SOIL
B07HJ8	A2-11-041-03B	SV & P	SOIL
B07HJ8 MS	A2-11-041-03D	V	SOIL
B07HJ8 MSD	A2-11-041-03E	V	SOIL

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

All of the samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were analyzed by heated purge within the CLP SOW holding times.

All of the QC results were within the limits specified by the EPA CLP SOW.

TUNES :

All of the BFB tunes are injected directly into the GC/MS instrument.

3.2.2 SEMIVOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. Sample B07HJ8 had a Terphenyl-d14 surrogate recovery slightly above the QC limits. In accordance with protocol, no further action was required.

All of the other QC results were within the limits specified by the EPA CLP SOW.

3.2.3 PESTICIDE/PCB ANALYSIS :

SEQUENCE NOTES :

The sequence was started on 12/18/92 and analyzed in accordance with the EPA CLP SOW. The sequence was analyzed by single injection into a dual column system. The sequence met all the QC criteria specified in the CLP SOW.

The Chromatograms are presented in the manner consistent with the capabilities of the Nelson 2700 Turbochrome Data System which normalizes the largest peak to scale.

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. Samples B07HK0MS and B07HK0MSD had larger spike recoveries for gamma-BHC on the DB-608 column due to the co-elution of an interference peak. The percent difference in the concentration between the two GC columns was greater than 25%. The results for gamma-BHC have been "P" qualified.

All of the other results were within the limits specified by the EPA CLP SOW.

We 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 in this hardcopy data package and in the computer-readable data submitted on diskette is authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Nicole Roth
CLP Program Manager

Wida Ang
Organics Supervisor

9613492.8334

000005

EPA SAMPLE NO.

B07HJ8

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21120R14

Level: (low/med) LOW Date Received: 11/13/92

% Moisture: not dec. 7 Date Analyzed: 11/20/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	1	J
67-64-1	Acetone	14	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

9613492.8335

000006
EPA SAMPLE NO.

B07HJ8

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21120R14

Level: (low/med) LOW Date Received: 11/13/92

% Moisture: not dec. 7 Date Analyzed: 11/20/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613492.8536

000007
EPA SAMPLE NO.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

B07HJ9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21123R05

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: not dec. 5 Date Analyzed: 11/23/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	3	J
67-64-1	Acetone	40	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	2	J
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	4	J
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	5	J
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

9613492.8337

000008

EPA SAMPLE NO.

B07HJ9

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21123R05

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: not dec. 5 Date Analyzed: 11/23/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613492.8358

000009
EPA SAMPLE NO.

B07HK0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21123R04

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: not dec. 6 Date Analyzed: 11/23/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	26	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	3	J
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

GENERAL CHEMISTRY RESULTS

CASE NO. 11-041

Soil Sample #:

B07HJ9 B07HK0 B07HJ8

CASE NARRATIVE

The holding time for the Anions and pH analyses was exceeded. Careful review of the QC analysis indicate the data is reliable.

Due to a miss communication, a duplicate analysis for pH was not performed.

No other problems were encountered during sample analysis. All QC results were acceptable.

Ernesto Vazquez

Ernesto Vazquez

9613492.8340

000011

EPA SAMPLE NO.

B07HJ8

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-03B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21130S09

Level: (low/med) LOW Date Received: 11/13/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)Ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-Propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)Methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-Methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	850	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	850	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
99-09-2	3-Nitroaniline	850	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	850	U

9613492.8341

000012

EPA SAMPLE NO.

B07HJ8

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-03B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21130S09

Level: (low/med) LOW Date Received: 11/13/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	850	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	850	U
534-52-1	4,6-Dinitro-2-methylphenol	850	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	850	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-Butylphthalate	56	J
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	350	U
56-55-3	Benzo(a)Anthracene	350	U
117-81-7	bis(2-Ethylhexyl)Phthalate	350	U
218-01-9	Chrysene	350	U
117-84-0	Di-n-Octyl Phthalate	350	U
205-99-2	Benzo(b)Fluoranthene	350	U
207-08-9	Benzo(k)Fluoranthene	350	U
50-32-8	Benzo(a)Pyrene	350	U
193-39-5	Indeno(1,2,3-cd)Pyrene	350	U
53-70-3	Dibenz(a,h)Anthracene	350	U
191-24-2	Benzo(g,h,i)Perylene	350	U

(1) - Cannot be separated from Diphenylamine

9613492.8342

000013

EPA SAMPLE NO.

B07HJ8

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-03B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21130S09

Level: (low/med) LOW Date Received: 11/13/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

Number TICs found: 12

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.58	110000	BJ
2.	UNKNOWN HYDROCARBON	5.93	210	BJ
3.	UNKNOWN HYDROCARBON	6.45	2800	BJ
4.	UNKNOWN HYDROCARBON	6.68	180	BJ
5.	UNKNOWN KETONE	6.90	350	BJ
6.	UNKNOWN ALKANE	7.07	210	BJ
7.	UNKNOWN ALKANE	8.18	110	BJ
8.	PROPANOIC ACID ISOMER	16.63	71	J
9.	UNKNOWN COMPOUND	20.80	180	J
10.	HEXANEDIOIC ACID ISOMER	24.33	71	J
11.	UNKNOWN ALKANE	28.08	140	J
12.	UNKNOWN ALKANE	30.03	110	J

TMA Inc. REPORT Work Order # A2-11-041

Received: 11/13/92

Results by Sample

SAMPLE ID B07NJ9 FRACTION 01G TEST CODE WCCLPS NAME Anions in Solids - WH232

Date & Time Collected 11/11/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.7	mg/Kg	0.2
pH	9045	9.0	pH	.1
Sulfate	300.0	14	mg/Kg	2.

FORM I

9613492.8344

000014

EPA SAMPLE NO.

B07HJ9

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21130S05

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	830	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	830	U

TMA Inc. REPORT Work Order # A2-11-041

Received: 11/13/92 Results by Sample

SAMPLE ID B07NK0 FRACTION 02E TEST CODE VCCLPS NAME Anions in Solids - VM232

Date & Time Collected 11/12/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.5	mg/Kg	0.2
pH	9045	9.5	pH	.1
Sulfate	300.0	12	mg/Kg	2.

FORM I

9613492.8346

000015

EPA SAMPLE NO.

B07HJ9

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21130S05

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	830	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-methylphenol	830	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	830	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	340	U
117-81-7	bis(2-Ethylhexyl)Phthalate	340	U
218-01-9	Chrysene	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	340	U
207-08-9	Benzo(k)Fluoranthene	340	U
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

(1) - Cannot be separated from Diphenylamine

TNA Inc. REPORT Work Order # A2-11-041

Received: 11/13/92 Results by Sample

SAMPLE ID B07WJ8 FRACTION 03C TEST CODE WCCLPS NAME Anions in Solids - WW232

Date & Time Collected 11/09/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.5	mg/Kg	0.2
pH	9045	9.2	pH	.1
Sulfate	300.0	5	mg/Kg	2.

FORM I

EPA SAMPLE NO.

B07HJ9

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21130S05

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.47	39000	J
2.	UNKNOWN HYDROCARBON	5.70	72000	BJ
3.	UNKNOWN HYDROCARBON	6.02	240	BJ
4.	UNKNOWN HYDROCARBON	6.53	3400	BJ
5.	UNKNOWN HYDROCARBON	6.70	340	J
6.	UNKNOWN KETONE	6.95	520	BJ
7.	UNKNOWN ALKANE	7.07	140	BJ
8.	UNKNOWN KETONE	8.58	69	J

9613492.8349

000017

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HK0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-02B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21130S08

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: 6 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)Ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-Propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)Methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-Methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	840	U

9613492.8350

000018
EPA SAMPLE NO.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07HK0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-02B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21130S08

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: 6 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	840	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	130	J
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	840	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-Butylphthalate	350	U
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	350	U
56-55-3	Benzo(a)Anthracene	350	U
117-81-7	bis(2-Ethylhexyl)Phthalate	350	U
218-01-9	Chrysene	350	U
117-84-0	Di-n-Octyl Phthalate	350	U
205-99-2	Benzo(b)Fluoranthene	350	U
207-08-9	Benzo(k)Fluoranthene	350	U
50-32-8	Benzo(a)Pyrene	350	U
193-39-5	Indeno(1,2,3-cd)Pyrene	350	U
53-70-3	Dibenz(a,h)Anthracene	350	U
191-24-2	Benzo(g,h,i)Perylene	350	U

(1) - Cannot be separated from Diphenylamine

9613492.8351

000019

EPA SAMPLE NO.

B07HK0

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-02B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21130S08

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: 6 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.55	94000	BJ
2.	UNKNOWN HYDROCARBON	5.92	180	BJ
3.	UNKNOWN HYDROCARBON	6.43	2600	BJ
4.	UNKNOWN KETONE	6.90	180	BJ
5.	UNKNOWN ALKANE	7.05	100	BJ
6.	HEXANEDIOIC ACID ISOMER	24.33	70	J
7.	UNKNOWN HYDROCARBON	27.42	70	J

9613492.8352

000020

EPA SAMPLE NO.

B07HJ8

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-03B

Sample wt/vol: 30.7 (g/mL) G Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N Date Received: 11/13/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/19/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 12/19/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.2 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.5	U
7421-36-3	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

9613492.8353

000021

EPA SAMPLE NO.

B07HJ9

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-01D

Sample wt/vol: 30.3 (g/mL) G Lab File ID: _____

% Moisture: 5 decanted: (Y/N) N Date Received: 11/16/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/19/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 12/19/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

9613492.8354

000022

EPA SAMPLE NO.

B07HK0

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-02B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

% Moisture: 6 decanted: (Y/N) N Date Received: 11/16/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/19/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 12/19/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.5 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.5	U
7421-36-3	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	71	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

9613492.8355

TMA
Thermo Analytical Inc.

Skinner & Sherman Labs., Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200
FAX (617) 890-3883

JAN 1993
RECEIVED
OSM DMO

January 5, 1993

TMA/NORCAL
2030 Wright Avenue
Richmond, CA 94804
Attention: Dan Stuermer

Quality Control Narrative

Scope
Three (3) soil samples were submitted to TMA/Skinner & Sherman Laboratories, Inc. on November 14 and 17, 1992 from TMA/Norcal. The samples were analyzed for the USEPA CLP Target Analyte List metals and cyanide. The analysis were performed under TMA/Skinner and Sherman work order S211183.

Methodology
The samples were prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work ILM02.

Discussion
All quality control requirements were met for the samples with the following exceptions;

The antimony, and selenium digestion spike recovery exceeded the control limit requirements.

The ICP serial dilution for zinc exceeded the control limit requirements.

Please feel free to call if there are any questions concerning this package.

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

David N. Peterson
Assistant Laboratory Manager

9613492.8656

WESTINGHOUSE/HANFORD

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-114, SAS No.: SDG No.: B07HJ8

SOW No.: ILM03.0

SAMPLE NUMBER:	Lab Sample ID.
B07HJ8	11183-01S
B07HJ8D	11183-01S2
B07HJ8S	11183-01DS
B07HJ9	11183-02S
B07HK0	11183-03S

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: Steven R Provencal Name: Steven R. Provencal

Date: 1/5/93 Title: Lead Chemist

9613492.8357

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B07HJ8

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-114$AS No.: SDG No.: B07HJ8

Matrix (soil/water): SOIL Lab Sample ID: 11183-01S

Level (low/med): LOW Date Received: 11/14/92

% Solids: 91.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7430			P
7440-36-0	Antimony	3.7	U	N	P
7440-38-2	Arsenic	2.5			F
7440-39-3	Barium	63.0			P
7440-41-7	Beryllium	0.68	B		P
7440-43-9	Cadmium	0.22	U		P
7440-70-2	Calcium	5850			P
7440-47-3	Chromium	11.2			P
7440-48-4	Cobalt	10.1	B		P
7440-50-8	Copper	18.6			P
7439-89-6	Iron	21000			P
7439-92-1	Lead	5.1		S	F
7439-95-4	Magnesium	5050			P
7439-96-5	Manganese	309			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	11.3			P
7440-09-7	Potassium	1550			P
7782-49-2	Selenium	0.78	U	WN	F
7440-22-4	Silver	0.55	U		P
7440-23-5	Sodium	247	B		P
7440-28-0	Thallium	0.28	U		F
7440-62-2	Vanadium	42.0			P
7440-66-6	Zinc	44.5		E	P
	Cyanide	0.54	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:

STONES

0 2

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B07HJ9

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-114$AS No.: SDG No.: B07HJ8

Matrix (soil/water): SOIL Lab Sample ID: 11183-02S

Level (low/med): LOW Date Received: 11/17/92

% Solids: 93.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5900			P
7440-36-0	Antimony	3.5	U	N	P
7440-38-2	Arsenic	2.1			F
7440-39-3	Barium	58.2			P
7440-41-7	Beryllium	0.37	B		P
7440-43-9	Cadmium	0.60	B		P
7440-70-2	Calcium	3030			P
7440-47-3	Chromium	153			P
7440-48-4	Cobalt	7.8	B		P
7440-50-8	Copper	44.9			P
7439-89-6	Iron	17000			P
7439-92-1	Lead	4.1			F
7439-95-4	Magnesium	4290			P
7439-96-5	Manganese	229			P
7439-97-6	Mercury	3.9			CV
7440-02-0	Nickel	14.0			P
7440-09-7	Potassium	742	B		P
7782-49-2	Selenium	0.72	U	WN	F
7440-22-4	Silver	0.52	U		P
7440-23-5	Sodium	254	B		P
7440-28-0	Thallium	0.26	U	W	F
7440-62-2	Vanadium	39.4			P
7440-66-6	Zinc	143		E	P
	Cyanide	0.51	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B07HK0

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-114$AS No.: SDG No.: B07HJ8

Matrix (soil/water): SOIL Lab Sample ID: 11183-03S

Level (low/med): LOW Date Received: 11/17/92

% Solids: 90.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6450			P
7440-36-0	Antimony	3.6	U	N	P
7440-38-2	Arsenic	1.5	B		F
7440-39-3	Barium	74.7			P
7440-41-7	Beryllium	0.44	B		P
7440-43-9	Cadmium	0.22	U		P
7440-70-2	Calcium	3410			P
7440-47-3	Chromium	21.7			P
7440-48-4	Cobalt	7.5	B		P
7440-50-8	Copper	16.8			P
7439-89-6	Iron	13900			P
7439-92-1	Lead	3.3		S	F
7439-95-4	Magnesium	4350			P
7439-96-5	Manganese	297			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	10.7			P
7440-09-7	Potassium	1240			P
7782-49-2	Selenium	0.80	U	N	F
7440-22-4	Silver	0.54	U		P
7440-23-5	Sodium	296	B		P
7440-28-0	Thallium	0.29	U		F
7440-62-2	Vanadium	26.3			P
7440-66-6	Zinc	63.6		E	P
	Cyanide	0.52	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

9613492.8360

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-11-114
RCVD: 11/13/92 DUE: 12/13/92 11/13/92 15:50:19 KEEP: 03/13/93 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-S	B07HJ8		S&S	WH001	WH002	WH004	WH005	WH233
01F-S	B07HJ8	MS	S&S	WH001	WH002	WH004	WH005	WH233
01G-S	B07HJ8	DUP	S&S	WH001	WH002	WH004	WH005	WH233
01H-S	L C S		S&S	WH001	WH002	WH004	WH005	WH233

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
-ey	11-13-92	Skinner	11-13-92	[illegible]	11/14/92

P.O. # Hard-Copy on file set of W. ORD. # N2-11-114 will be sent to you on Monday

210

9613492.8361

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-11-119

RCVD: 11/16/92 DUE: 12/16/92 12/16/92 13:51:00 KEEP: 03/16/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-S	B07HJ9	S&S	WH001	WH002	WH004	WH005	WH233
02B-S	B07HK0	S&S	WH001	WH002	WH004	WH005	WH233
02F-S	B07HK0 MS	S&S	WH001	WH002	WH004	WH005	WH233
02G-S	B07HK0 DUP	S&S	WH001	WH002	WH004	WH005	WH233
02H-S	L C S	S&S	WH001	WH002	WH004	WH005	WH233

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	11-16-92	SKINNER	11-16-92	[illegible]	11/17/92

211

9613492.8362

TMA

Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

QUALITY ENVIRONMENTAL SERVICES

JAN 1993
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Report for

TMA/Norcal

WORK ORDER #S211184

Scientific Services Since 1922

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

9613492.8363

000001 2/15/93

Page 1 Skinner&Sherman REPORT Work Order # S2-11-184

Received: 11/14/92 12/29/92 15:34:23

REPORT TMA/NORCAL
TO 2030 Wright Avenue
Richmond, CA 94804

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 4
COMPANY TMA/NORCAL
FACILITY Richmond, CA

PREPARED TMA / Skinner & Sherman Labs.
BY 300 Second Avenue
P.O. Box 521
Waltham, MA 02254

ATTEN Client Services
PHONE (617) 890-7200

CERTIFIED BY

CONTACT DP

WORK ID N2-11-114,N2-11-119
TAKEN BY CLIENT
TRANS FED EX
TYPE SOIL
P.O. # N2-11-114,N2-11-119
INVOICE under separate cover

SAMPLE IDENTIFICATION

01 B07HJ8
02 B07HJ9
03 B07HK0
03 B07HK0 DUPL
03 B07HK0 SPIKE
04 LCSS

TEST CODES and NAMES used on this workorder

NO3NO2 Nitrate Plus Nitrite

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfie Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Clie will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoic amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. wi exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held fo thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

9613492.8364

000002

 Skinner&Sherman REPORT Work Order # S2-11-184

Received: 11/14/92 Results by Sample

SAMPLE ID B07HJ8 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 11/09/92 Category SOIL

NO3NO2 <2.50
mg N/kg

SAMPLE ID B07HJ9 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 4.42
mg N/kg

SAMPLE ID B07HK0 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 <2.49
mg N/kg

SAMPLE ID B07HK0 DUPL SAMPLE # 03 FRACTIONS: B
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 <2.49
mg N/kg

SAMPLE ID B07HK0 SPIKE SAMPLE # 03 FRACTIONS: C
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 20.0
mg N/kg

SAMPLE ID LCSS SAMPLE # 04 FRACTIONS: A
Date & Time Collected not specified Category SOIL

NO3NO2 1.94
mg N/L

TMA
Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfie Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Clie will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoic amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. wi exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held fo thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

Skinner & Sherman Laboratories Inc. 300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

9613492.8365

000022

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-11-114

RCVD: 11/13/92 DUE: 12/13/92 11/13/92 15:50:19 KEEP: 03/13/93 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SV and CATEGORY				
01B-S	B07HJ8		S&S	WH001	WH002	WH004	WH005	WH233
01F-S	B07HJ8	MS	S&S	WH001	WH002	WH004	WH005	WH233
01G-S	B07HJ8	DUP	S&S	WH001	WH002	WH004	WH005	WH233
01H-S	L C S		S&S	WH001	WH002	WH004	WH005	WH233

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
[illegible]	11-13-92	Skinner	11-13-92	[illegible]	11/14/92

9613492.8366

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-11-119

RCVD: 11/16/92 DUE: 12/16/92 11/16/92 13:51:00 KEEP: 03/16/93 DISP: S 000023

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-S	B07HJ9	S&S	WH001	WH002	WH004	WH005	WH233
02B-S	B07HK0	S&S	WH001	WH002	WH004	WH005	WH233
02F-S	B07HK0 MS	S&S	WH001	WH002	WH004	WH005	WH233
02G-S	B07HK0 DUP	S&S	WH001	WH002	WH004	WH005	WH233
02H-S	L C S	S&S	WH001	WH002	WH004	WH005	WH233

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yujam amado	11-16-92	SKWNR	11-16-92	[illegible]	11/17/92

9613492.8367

TMA

RECORD COPY

WESTINGHOUSE HANFORD COMPANY

JAN 1993
RECEIVED
OSM DMO

Results of Analyses For:

ORGANICS & GENERAL CHEMISTRY
Case No. 11-041
(TMA/ARLI Work Order # A2-11-041)

METALS & NITRATE/NITRITE
Case Nos. N2-11-114 & N2-11-119
(TMA/Skinner & Sherman W.O. # S2-11-183 & S2-11-184)

January 26, 1993

TMA Master Work Orders N2-11-114 & N2-11-119

9613492.8368

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

GENERAL CHEMISTRY
CASE NO. 11-041
(TMA/ARLI Work Order # A2-11-041)

ORGANICS
CASE NO. 11-041
(TMA/ARLI Work Order # A2-11-041)

General Chemistry and Organics results are presented for the following WHC SOIL sample(s):

B07HJ9 B07HK0 B07HJ8

Norcal Work Order # N2-11-119/114

Thermo Analytical Inc.
160 Taylor Street
Monrovia, CA 91016
(818) 357-3247

9613492.8369

000002

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-11-114

RCVD: 11/13/92 DUE: 12/13/92 11/13/92 15:50:18 KEEP: 03/13/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY
01A-S	B07HJ8	ARLI	: WH014 WH015 WH016 WH217 WH232
01C-S	B07HJ8 MS	ARLI	: WH014 WH015 WH016 WH232
01D-S	B07HJ8 MSD	ARLI	: WH014 WH015 WH016
01E	B07HJ8 DUP	ARLI	: WH217 WH232

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
[illegible]	11-16-92	Arli	11-16-92	[illegible]	11/17/92

9613492.8370

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-11-119 000003

RCVD: 11/16/92 DUE: 12/16/92 11/16/92 13:50:59 KEEP: 03/16/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01A-S	BOTHJ9	ARLI	WH014	WH015	WH016	WH217	WH232
02A-S	BOTH[illegible]	ARLI	WH014	WH015	WH016	WH217	WH232
02C-S	BOTH[illegible] MS	ARLI	WH014	WH015	WH016	WH232	
02D-S	BOTH[illegible] MSD	ARLI	WH014	WH015	WH016		
02E-S	BOTH[illegible] DUP	ARLI	WH2[illegible]	WH232			

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
eyamamoto	11-16-92	ARLI	11-16-92	[illegible]	11/17/92

9613492.8371

C00003A

N2-11-14

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-KR-1

Collection Date: 11.9.92

Ice Chest No.: SML 242

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.: 2519006919

Offsite Property No.: W98-0-0002 #41

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B07HJ8
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2)
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3)
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn WVS
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	James Reeves	11-12/92 09:50
James Reeves	Kermit Blum KB	11-12/92 11:40
	Kermit Blum	11-13-92 1400

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9613492.8372

000003

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector W.W. SETZER Date 11-12-92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B07HJ8	S	11-9-92	0940	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA WWS 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

S
A
A

*Type of Sample

A = Air	L = Liquid	SE = Sediment	T = Tissue	X = Other
DL = Drum Liquids	O = Oil	SL = Sludge	W = Water	
DS = Drum Solids	S = Soil	SO = Solid	WI = Wipe	

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards ~~NA~~ WWS NONE DETECTED

A-6000-406 (06/91) WEF060

9613492.8373

000003C

N2-11-119

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-~~FR-3~~ KR-1 WVS 11-11-92 — Collection Date: 11-11-92

Ice Chest No.: KT-3 — Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.: — Offsite Property No.: OCST 15870

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL ~~1000 EPM WVS 11-13-92~~

Possible Sample Hazards/Remarks: ~~None~~ detected with field instruments. Maintain at 4C.

Sample Identification

1) B07HJ9
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2) ~~B07HJ0~~ WVS 11-11-92
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3) WVS
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by	Received by	Date/Time
W.V. Setzer	Kermit Blum Kermit Blum	11-16-92 0800 *
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/NORCAL 11-14-92 @ 1000; opened 11-16-92 · KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9613492.8374 000003D

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.W. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-KR-1

Collection Date: 11-12-92

Ice Chest No.: KT3

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.:

Offsite Property No.: OASR 15870

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) BOTHKO
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2)
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

WVS

3)
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.W. Setzer	Kermit Blum / Kermit Blum	11-16-92 0800*
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Dispo[illegible] by:	Date/Time:

Comments:

* Received @ TMA/NORCAL ON 11-14-92, opened 11-16-92 KB

Original file Name is TMA COC.KR1

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9613492.8375

000003E

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector WW SETZER Date 11-13-92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B07H59	S	11-11-92	1040	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07HK0	S	11-12-92	0840	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

WWS

*Type of Sample

A = Air	L = Liquid	SE = Sediment	T = Tissue	X = Other
DL = Drum Liquids	O = Oil	SL = Sludge	W = Water	
DS = Drum Solids	S = Soil	SO = Solid	WI = Wipe	

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards ~~NA~~ SAMPLES ARE RADIOACTIVE

A-6000-406 (06/91) WEF060

9613492.8376

000008

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER

5188042204

5188042204

RECIPIENT'S COPY

1 Date 11-16-9

From (Your Name) Please Print: SAMPLE CONTACT

Your Phone Number (Very important): (310)439-2033

Company: [illegible]

Department/Floor No.

Street Address: [illegible]

City: [illegible] State: CA ZIP Required: [illegible]

2 To (Recipient's Name) Please Print: SAMPLE CONTACT

Recipient's Phone Number (Very ir: ( )

Company: TRAILAN

Department/Fl

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 160 TAYLOR STREET

City: MONROVIA State: CA ZIP Required: 91016

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2320 6406

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 [x] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No 3 [ ] Bill 3rd Party FedEx Acct. No 4 [ ] Bill Credit Card
5 [ ] Cash Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)
11 [x] YOUR PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon; Saturday delivery)
51 [ ] YOUR PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day)
30 [ ] ECONOMY

Government Overnight (Required for authorized users only)
46 [ ] GOVT LETTER
41 [ ] GOVT PACKAGE

Freight Service (for packages over 150 lbs)
70 [ ] OVERNIGHT FREIGHT** (Advanced reservation required)
80 [ ] TWO-DAY FREIGHT**
† Delivery commitment may be later in some areas
*Declared Value Limit $500
**Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)
1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [x] DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [ ]
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE LBS
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
10 [ ]
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES | WEIGHT in Pounds Only | YOUR DECLARED VALUE
Total 1 | Total 45 | Total

DIM SHIPMENT (Chargeable Weight) [ ] lbs.
L x W x H

Received At
1 [x] Regular Stop 3 [ ] Drop Box
2 [ ] On-Call Stop 4 [ ] B S C 5 [ ] Station

Emp. No Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To De [ ] Chg. To Hold
Street Address
City State Zip
Received By: X
Date/Time Received FedEx Employee Number

7 Release Signature

Federal Express
Base Charges
Declared Value C
Other 1
Other 2
Total Charges

REVISION DATE
PART #137204 FXE
FORMAT #126
126
© 1991 92 FEDE
PRINTED IN
U.S.A.

961392.8577

SAMPLE LOG-IN SHEET

LAB NAME : TRA/ARLI

PAGE : 1 OF 000004

RECEIVED BY (PRINT NAME): Trudy Golub

LOG-IN-DATE : 11/17/92

RECEIVED BY (SIGNATURE): Trudy Golub

CASE NUMBER:

SAMPLE DELIVERY GROUP NO.:

SAS NUMBER:

REMARKS: #10

1. Custody Seal(s) — Present/Absent* Intact/Broken
2. Custody Seal Nos: _____
3. Chain of Custody Records — Present/Absent*
4. Traffic Reports or Packing List — Present/Absent*
5. Airbill — Airbill/Sticker Present/Absent*
6. Airbill No.: 5188042204
7. Sample Tags — Present/Absent*
8. Sample Tags Numbers — Listed/Not Listed on Chain of Custody
9. Sample Condition: — Intact/Broken*/Leaking
10. Does information on custody records, traffic reports, and sample tags agree — Yes/No*
11. Date Recieved at Lab: 11-17-92
12. Temp of ice chest 0 °C
13. Time Recieved: 9:30 AM

SAMPLE TRANSFER

Fraction: _____

Area #: _____

By: _____

On: _____

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B07PD5	A2-11-042-22	
	B07PD4	A2-11-042-21	
	B07PC6	A2-11-042-17	
	B07PC7	A2-11-042-18	
	B07P75	A2-11-042-02	
	B07P76	A2-11-042-03	
	B07P77	A2-11-042-04	1 VOA HAS BUBBLE
	B07P93	A2-11-042-08	1 VOA HAS BUBBLE
	B07P74	A2-11-042-01	
	B07P92	A2-11-042-07	
	B07P81	A2-11-042-06	1 VOA HAS BUBBLE
	B07P80	A2-11-042-05	
	B07PB3	A2-11-042-10	
	B07P71	A2-11-042-14	1 VOA HAS BUBBLE
	B07P70	A2-11-042-13	6 VOAS
	B07P68	A2-11-042-11	6 VOAS
	B07P69	A2-11-042-12	2 VOA - BUBBLE
	B07PD2	A2-11-042-19	
	B07PB2	A2-11-042-09	
	B07PD3	A2-11-042-20	1 VOA HAS BUBBLE *
	B07P73	A2-11-042-16	
	B07P72	A2-11-042-15	6 VOA'S
	B07HJ8	A2-11-041-03	

* Contact SMO and attach record of resolution

Reviewed By: _____ Logbook No.: _____

Date: _____ Logbook Page No.: _____

FORM DC-1

* one label reads B07D3

9613492.8578

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI

PAGE : 000005 OF

RECEIVED BY (PRINT NAME): TRUDY GOLUB

LOG-IN-DATE : 11-17-92

RECEIVED BY (SIGNATURE): Trudy Golub

CASE NUMBER:

SAMPLE DELIVERY GROUP NO.:

SAS NUMBER:

REMARKS: Red & White

1. Custody Seal(s) Present/Absent* Intact/Broken
2. Custody Seal Nos:
3. Chain of Custody Records Present/Absent*
4. Traffic Reports or Packing List Present/Absent*
5. Airbill Airbill/Sticker Present/Absent*
6. Airbill No.: 5188042086
7. Sample Tags Present/Absent*
8. Sample Tags Numbers Listed/Not Listed on Chain of Custody
9. Sample Condition: Intact/Broken*/Leaking
10. Does information on custody records, traffic reports, and sample tags agree Yes/No*
11. Date Recieved at Lab: 11-17-92
12. Temp of ice chest 1 °C
13. Time Recieved: 9:30 AM

SAMPLE TRANSFER

Fraction:

Area #:

By:

On:

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B07HJ9	A211-041-01	
	B07HK0	A211-041-02	

* Contact SMO and attach record of resolution

Reviewed By:

Date:

Logbook No.:

Logbook Page No.:

FORM DC-1

DMC3/LOGIN.TBL

9613492.6579

000006
000006

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 11/17/92 COMPANY TMA (WHC) OTHER ORD # 518804 2304

Surveyor's Name MARK S. McCrary

Model No. HP-210 / ESP-1 Model No. AC-3-7 / ESP-1

Serial Nos. 710289 / 02619 Serial Nos. 407726 / 02628

Calibration Date 3/25/92 Calibration Date 8/01/92

Instrument Calibration Factor 0.280 Instrument Calibration Factor 0.188

Sample	Location	HP-210 CPM	HP-210 Factor	HP-210 DPM	AC-3-7 CPM	AC-3-7 Factor	AC-3-7 DPM	Spillage or Breakage?	Activity, uCi/mL or uCi/g
Background		36.0			2.0				
Consistency		7,340	02833		5,015	0.1843			
Blue + White Smears # 10		30.0			2.0			NONE	
Reported (WHC)		24 samples		each	< 5	pCi/gram			

Comments:

All OK ✓ Approved MSM

Not OK Date 11/17/92

Form: ARLI RA-01 01/15/92

9613492.8380

000007

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 11/17/92 COMPANY TMA NORCAL (WHC) OTHER ORD # 5188042086

Surveyor's Name MARK S. McGraw

Model No. HP-210 / ESP-1 Model No. AC-3-7 / ESP-1

Serial Nos. 710289 / 02619 Serial Nos. 407726 / 02628

Calibration Date 3/25/92 Calibration Date 8/01/92

Instrument Calibration Factor 0.280 Instrument Calibration Factor 0.188

Sample	Location	HP-210 CPM	HP-210 Factor	HP-210 DPM	AC-3-7 CPM	AC-3-7 Factor	AC-3-7 DPM	Spillage or Breaking?	Activity, uCi/mL or uCi/g
Background		36.0			2.0				
Consistency		7,340	0.2833						
Smears: RED & white		31.0			3.0			None	
Reported (WHC)		One sample			7.8 E+2		uCi/gram		

Comments:

All OK ✓ Approved MSM

Not OK Date 11/17/92

Form: ARLI RA-01
Rev. 06

01/15/92

9613492.8581

000009

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 5188042086

5188042086

Date 11 16 92

RECIPIENT'S COPY

1 From (Your Name) Please Print: SAMOIC CONTACT

Your Phone Number (Very Important): (510) 235-2033

Company: T P A INDUSTRIAL

Department/Floor No.

Street Address: 2000 WEIGHT AVE

City: RICHMOND State: CA ZIP Required: 9 4 8 0 4

2 To (Recipient's Name) Please Print: SAMOIC CONTACT

Recipient's Phone Number (Very Important): ( )

Company: TMA/ ARI

Department/Floor No.

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 166 TAYLOR STREET

City: MONROVIA State: CA ZIP Required: 91016

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2305 6406

H IF HOLD FOR PICK-UP, Print FEDEX Address Here: Street Address / City / State / ZIP Required

3 PAYMENT: 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†): 11 [X] YOUR PACKAGING; 16 [ ] FEDEX LETTER*; 12 [ ] FEDEX PAK*; 13 [ ] FEDEX BOX; 14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon; No Saturday delivery†): 51 [ ] YOUR PACKAGING; 56 [ ] FEDEX LETTER*; 52 [ ] FEDEX PAK*; 53 [ ] FEDEX BOX; 54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †): 30 [ ] ECONOMY

Government Overnight (Restricted to authorized users only): 46 [ ] GOVT LETTER; 41 [ ] GOVT PACKAGE

Freight Service (for packages over 150 lbs.): 70 [ ] OVERNIGHT FREIGHT** (Customer reservation required); 80 [ ] TWO-DAY FREIGHT**

† Delivery commitment may be later in some areas. *Declared Value Limit $500. **Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [X] DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [ ]
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE Lbs.
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
10 [ ]
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES / WEIGHT in Pounds Only / YOUR DECLARED VALUE

Total 1 Total 35 Total

DIM SHIPMENT (Chargeable Weight) [ ] lbs.

L x W x H

Received At: 1 [X] Regular Stop 2 [ ] On-Call Stop 3 [ ] Drop Box 4 [ ] B S C 5 [ ] Station

Emp. No / Date

[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold

Street Address

City / State / Zip

Received By: X

Date/Time Received / FedEx Employee Number

7 Release Signature

Federal Express Base Charges / Declared Value Charge / Other 1 / Other 2 / Total Charges

REVISION DATE 2.92 PART #137204 FXE FORMAT #126

126

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5188042086

GENERAL CHEMISTRY RESULTS

CASE NO. 11-041

Soil Sample #:

B07HJ9	B07HK0	B07HJ8

CASE NARRATIVE

No problems were encountered during sample analysis. All QC results were acceptable.

Ernesto Vázquez

Ernesto Vazquez

9613492.8383

000011

TMA Inc. REPORT Work Order # A2-11-041

Received: 11/13/92 01/26/93 06:26:55

REPORT TO
Westinghouse Hanford Company
2355 Stevens Dr.
Richland,WA,99352
MO-346/200 West/T6-08
ATTEN Jeanette Duncan

PREPARED BY
Thermo Analytical, Inc.
160 Taylor Street
Monrovia, CA 91016
ATTEN Ms. Carole Harris
PHONE 818-357-3247

CERTIFIED BY Ernesto Hyggy
CONTACT EVV CIH

CLIENT WHC SAMPLES 4
COMPANY Westinghouse Hanford Company
FACILITY

This report is for the sole and exclusive use of the client to whom it is addressed and represents only those samples herein described. Samples not destroyed in testing are retained a maximum of 30 days unless otherwise requested.

WORK ID 100-KR-1
TAKEN By Westinghouse Staff
TRANS By Federal Express
TYPE Soil
P.O. # N2-11-119/114-SU-AR
INV. # 616314

Samples were collected 11/09,11/11,11/12 of 1992. Samples were received at TMA/Arli 11/17/92

SAMPLE IDENTIFICATION

01 B07HJ9
01 B07HJ9 MS
01 B07HJ9 MSD
01 B07HJ9
01 B07HJ9 MS
01 B07HJ9 MSD
01 B07HJ9
01 B07HJ9 MS
02 B07HK0
02 B07HK0 MS
02 B07HK0 MSD
02 B07HK0
02 B07HK0 Duplicate
03 B07HJ8
03 B07HJ8 MS
03 B07HJ8 MSD
04 Wet Chemistry Blank

TEST CODES and NAMES used on this workorder

BNCLPS	CLP Semivol. Sol. - WH016
CANCEL	Analysis Cancelled
IC AN	Anions Extraction Solids
PECLPS	CLP Pest\PCBs Soil - WH015
VOCLPS	CLP Vol. Org.Soils - WH014
WCCLPS	Anions in Solids - WH232
WCQCD	Quality Control Summary
WCQCS	Quality Control Summary
WF S	Fluoride in Solids
WMOIST	Moisture
WPH S	pH of Solids - WH217
WSO4 S	Sulfate (in Solids)

SAMPLE RESULTS

TMA Inc. REPORT Work Order # A2-11-861

Received: 11/13/92

Results by Sample

SAMPLE ID B07WJ9 FRACTION 01G TEST CODE VCCLPS NAME Anions in Solids - VW232

Date & Time Collected 11/11/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.7	mg/Kg	0.2
Sulfate	300.0	14	mg/Kg	2.

FORM I

9613492.8586

000014

TMA Inc. REPORT Work Order # A2-11-041

Received: 11/13/92 Results by Sample

SAMPLE ID B07NK0 FRACTION 02E TEST CODE VCCLPS NAME Anions in Solids - VM232

Date & Time Collected 11/12/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.5	mg/Kg	0.2
Sulfate	300.0	12	mg/Kg	2.

FORM I

9613492.8387

000015

TMA Inc. REPORT Work Order # A2-11-061

Received: 11/13/92

Results by Sample

SAMPLE ID B07WJ8 FRACTION 03C TEST CODE WCCLPS NAME Anions in Solids - WW232

Date & Time Collected 11/09/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.5	mg/Kg	0.2
Sulfate	300.0	5	mg/Kg	2.

FORM I

9613492.8388

000016

TMA Inc. REPORT Work Order # A2-11-041

Received: 11/13/92

Results by Sample

SAMPLE ID Wet Chemistry Blank FRACTION 04A TEST CODE WCCLPS NAME Anions in Solids - WN232

Date & Time Collected not specified Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	<0.2	mg/Kg	0.2
Sulfate	300.0	<2	mg/Kg	2.0

FORM I

9613492.8389

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P. O. Box 4040
Richmond, CA 94804-0040
(510) 235-2633 Fax No. (510) 235-0438

MAR 1993
RECEIVED
OSM DMO

March 3, 1993

SENT BY FEDERAL EXPRESS

Ref. TMA/Norcal N2-11-145-7127

Ms. Briana Colley
Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23
345 Hills Street/3000 Area
Richland, WA 99352

Dear Ms. Colley:

Enclosed is the amended TMA/Norcal report N2-11-145-7127 dated 23 February 1993. This report includes ^{14}C data for the sample 7127-1 which was inadvertantly left out of the original package. The enclosed Summary Data Section replaces the Summary Data Section of 23 February 1993.

Please call if you have any questions concerning this data.

Sincerely,

D.P. Kharkar

Dinkar P. Kharkar, Ph.D.
Manager, Nuclear Programs

DPK/jv

Enclosures: Summary Data Report

RECORD COPY

SDG	7127	Client	Westinghouse Hanford
Contact	Dinkar P. Kharkar	Contract	MBH-SVV-069262

CASE NARRATIVE

1.0 GENERAL

Soil sample results from 100-KR-1 location (TMA/Norcal Group 7127) are reported herein. TMA/Norcal Group 7127 is comprised of five samples listed on the Chain-of-Custody documents and is identified as sample 1 through 5.

1.1 CHAINS-OF-CUSTODY

This report includes data from samples delivered under Chain-of-Custody documents Field Logbook No. EFL-1051.

1.2 SAMPLE VOLUME

1000 mL bottles containing the samples were received for the analyses.

1.3 MISSING SAMPLES

All samples were accounted for in an undamaged condition.

1.4 HOLDING TIMES

Samples were collected between 11/11/92 and 11/17/92 and sample processing was initiated within 180 days of collection.

2.0 QUALITY CONTROL

The internal quality control consisted of one sample each of a laboratory control, a blank, and a replicate. All original analyses were performed with QC samples 7127-6 through 10.

The QC samples were prepared and labelled by the quality control officer. Copies of The QC notebook pages are included in the data package.

2.1 LABORATORY CONTROL SAMPLES

The LCS recoveries for all the nuclides were good except for gross alpha and ^{14}C with recoveries of 71% and 296% respectively and they did not pass the 3σ protocol limits. However, the LCS recoveries for gross alpha pass the 3σ total limits within the statistical error.

001B
4/16/93

SDG	7127	Client	Westinghouse Hanford
Contact	Dinkar P. Kharkar	Contract	MBH-SVV-069262

CASE NARRATIVE

2.1 LABORATORY CONTROL SAMPLES cont.

Based on earlier results we suspected that there was a problem with our usual aqueous standard (either due to the water component causing a problem in the burn or in the oxidation of the radiocarbon). This standard is being used as a back-up until more of the solid methacrylate tabs can be procured.

Therefore, we attempted in these processing batches to use a different C-14 standard which would not be prone to the above problem. An organic solution was used, which was NOT NIST traceable. It was a very high level solution (on the order of 800,000 dpm/mL) and required a significant dilution. These two factors led to a high degree of doubt as to the actual added level of activity in these LCSs. I believe that these data are not valid.

A usual standard of the aqueous solution was also processed along with the other LCSs. This is sample 7117-401 and it has approximately the usual F/A ratios. This is the valid result which should be used.

We will continue to test this problem with some NIST-traceable organic solutions and these results should be available for sets 7138,7144,7130, and 7127.

The ^{238}Pu and ^{59}Fe MDA's were above the RDL due to higher than normal backgrounds.

2.2 BLANKS

MDA's for all the analyses meet the RDL requirements except for plutonium isotopes, ^{241}Am, and ^{90}Sr. The higher MDA's for plutonium isotopes, ^{241}Am, and ^{90}Sr was due to lower chemical efficiencies.

2.3 REPLICATES

Results were satisfactory for all replicate analyses except for gross beta and $^{233/234}$U. The relative percent difference (RPD) for gross beta and for $^{233/234}$U were 81%, and 113% respectively. The associated errors of the RPD, however, were high. The MDA's of $^{238, 239, 240}$Pu and ^{59}Fe for sample 7127-8 (duplicate of 7127-2) and the MDA's for ^{238}Pu and ^{59}Fe for both 7127-8 and 7127-2 were high because of higher background and low chemical yield. The higher ^{239}Pu MDA for 7127-8 was due to low chemical yield. The high MDA for ^{59}Fe for both 7127-8 and 7127-2 were due to small aliquots available for analysis.

001C
4/16/93

SDG	7127	Client	Westinghouse Hanford
Contact	Dinkar P. Kharkar	Contract	MBH-SVV-069262

CASE NARRATIVE

3.0 ANALYTICAL NOTES

3.1 Gross Alpha Analyses: The average MDA for gross alpha was (6 ± 3) pCi/g. Positive gross alpha concentration above RDL was not found in any of the samples, except sample 7127-1.

3.2 Gross Beta Analyses: The average MDA for gross beta was (5 ± 1) pCi/g. Positive gross beta concentration above RDL was found in all the samples except sample 7127-5.

3.3 Carbon-14 Analyses: The average MDA was (5 ± 0.8) pCi/g. all sample result were less than RDL. No positive ^{14}C was found in any of the samples.

3.4 Strontium-90 Analyses: The average yield for ten analyses was (75 ± 28)%. The lowest yield was 40% and the highest was 90%. The average MDA was (1 ± 0.7) pCi/g. Positive ^{90}Sr concentration above the RDL was found in all the samples, except 7127-5. The ^{90}Sr planchet of samples 7127-1, 2, and 8 were found to be contanimated, possibly due to higher europium isotopes present in the samples and therefore the ^{90}Sr results for the samples are not reliable. The samples are being reprocessed for ^{90}Sr.

3.5 Uranium-233, 234, 238 Analyses: The average yield for ten analyses was (71 ± 20)%. The lowest yield was 51% and the highest was 87%. The average MDA was (0.1 ± 0.1) pCi/g. Concentration of ^{234}U and ^{238}U above the RDL were found in all of the samples. Samples 7127-7, 8, 9 were counted for less than the nominal count time of 150 minutes.

3.6 Plutonium-238, 239/240 Analyses: The average yield for ten analyses was (34 ± 30)%. The lowest yield was 21% and the highest was 71%. The average MDA was (0.07 ± 0.04) pCi/g. Positive plutonium concentrations above the RDL was not found in any of the samples, except 7127-1, and 2. All the sample MDA's were higher than the RDL due to low yields. Sample 7127-1 was counted for less than the nominal count time of 700 minutes due to higher concentration.

3.7 Americium-241 Analyses: The average yield for ten analyses was (64 ± 29)%. The lowest yield was 42% and the highest yield was 83%. The average MDA was (0.04 ± 0.03) pCi/g. Positive americium concentrations above the RDL were found in sample 7127-1, and 2. All the sample results were below the RDL.

3.8 Gamma Scan Analyses: Gamma scan analysis found positive concentration of gamma nuclides in all the samples. All MDA's were higher than the RDL due to small sample aliquots available for analysis.

0010

4/16/93

9613492.8393

N211145-08

TMA NORCAL

REPORTING GROUP 7127

REPLICATE

B07HK0

SDG	7127			Client	Westinghouse Hanford
Contact	Dinkar Kharkar			Contract	MBH-SVV-069262
	REPLICATE		ORIGINAL		
Lab sample id	N211145-08	Lab sample id	N211145-02	Client sample id	B07HK0
Dept sample id	7127-008	Dept sample id	7127-002	Matrix	SOIL
		Received	11/16/92	Collected	11/12/92
% moisture	3.6	% moisture	3.6	Chain of custody id	EFL-1051

PARAMETER	REPLICATE pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST	ORIGINAL pCi/G	2σ ERR (COUNT)	MDA pCi/G	QUALI-FIERS	RPD %	3σ TOT	PRO LIMI
Gross Alpha	8.5	6.4	7	10	J	80A	1.2	4.1	6	U	151	241	
Gross Beta	24	4.8	6	10		80B	57	6.3	6		81	45	
Uranium 233/234	0.17	0.10	0.1	0.3	J	U	0.61	0.20	0.1		113	87	
Uranium 235	0	0.041	0.2	0.3	U	U	0.072	0.087	0.1	U	-		
Uranium 238	0.27	0.14	0.1	0.3	J	U	0.43	0.15	0.09		46	89	
Plutonium 238	-0.023	0.062	0.1	0.05	U	PU	-0.007	0.028	0.08	U	-		
Plutonium 239/240	-0.008	0.046	0.1	0.05	U	PU	0.077	0.043	0.05		200	223	
Americium 241	0.031	0.028	0.04	0.05	U	AM	0.080	0.029	0.02		88	110	
Strontium 90	-0.74	4.2	1	1	U	Y	3.5	2.0	1		200	330	
Carbon 14	0.85	4.4	5	50	U	C	-0.74	4.5	5	U	-		
GAMMA SCAN ANALYTES													
Potassium 40	13	3.1				GAM	14	1.4			7	50	
Iron 59	U		4	0.05	U	GAM	U		1	U	-		
Chromium 51	U		20		U	GAM	U		8	U	-		
Cobalt 60	21	0.92		0.05		GAM	22	0.45			5	33	
Zinc 65	U		2		U	GAM	U		0.9	U	-		
Ruthenium 106	U		5		U	GAM	U		2	U	-		
Cesium 134	U		0.7		U	GAM	U		0.3	U	-		
Cesium 137	17	0.92		0.05		GAM	17	0.38			0	34	
Europium 152	23	2.0		0.1		GAM	23	0.73			0	35	
Europium 154	4.7	1.2		0.1		GAM	3.2	0.52			38	59	
Radium 226	U		0.9		U	GAM	0.48	0.25			61	206	
Thorium 228	U		0.8		U	GAM	0.82	0.14			2	154	
Thorium 232	U		3		U	GAM	0.82	0.60			114	243	

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-REP
Version	2.23
Report date	03/02/93

9613492.8394

N211145-01

TMA NORCAL
REPORTING GROUP 7127

DATA SHEET

B07HJ9

SDG	7127	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211145-01	Client sample id	B07HJ9
Dept sample id	7127-001	Matrix	SOIL
Received	11/16/92	Collected	11/11/92
% moisture	4.1	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	78	16	5	10		80A
Gross Beta	Beta	2200	31	6	10	B	80B
Uranium 233/234		0.81	0.24	0.1	0.3		U
Uranium 235	15117-96-1	0.058	0.078	0.1	0.3	U	U
Uranium 238	7440-61-1	0.46	0.17	0.1	0.3		U
Plutonium 238	13981-16-3	2.1	0.50	0.06	0.05		PU
Plutonium 239/240		44	9.7	0.05	0.05		PU
Americium 241	14596-10-2	13	0.87	0.02	0.05		AM
Strontium 90	10098-97-2	15	12	0.9	1		Y
Carbon 14	14762-75-5	11	3.9	4	50	J	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		40		U	GAM
Iron 59		U		50	0.05	U	GAM
Chromium 51	14392-02-0	U		300		U	GAM
Cobalt 60	10198-40-0	370	9.5		0.05		GAM
Zinc 65	17982-39-3	U		40		U	GAM
Ruthenium 106	13967-48-1	U		70		U	GAM
Cesium 134	17967-70-9	U		9		U	GAM
Cesium 137	10045-97-3	1900	18		0.05		GAM
Europium 152	14683-23-9	1600	27		0.1		GAM
Europium 154	15585-10-1	250	19		0.1		GAM
Radium 226	13982-67-7	U		10		U	GAM
Thorium 228	14274-82-9	U		9		U	GAM
Thorium 232	7440-29-1	U		30		U	GAM
Europium 155	14391-16-3	15	10				GAM

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	03/02/93

9613492.0395

N211145-02

TMA NORCAL
REPORTING GROUP 7127

DATA SHEET

B07HK0

SDG	7127	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211145-02	Client sample id	B07HK0
Dept sample id	7127-002	Matrix	SOIL
Received	11/16/92	Collected	11/12/92
% moisture	3.6	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	1.2	4.1	6	10	U	80A
Gross Beta	Beta	57	6.3	6	10		80B
Uranium 233/234		0.61	0.20	0.1	0.3		U
Uranium 235	15117-96-1	0.072	0.087	0.1	0.3	U	U
Uranium 238	7440-61-1	0.43	0.15	0.09	0.3		U
Plutonium 238	13981-16-3	-0.007	0.028	0.08	0.05	U	PU
Plutonium 239/240		0.077	0.043	0.05	0.05		PU
Americium 241	14596-10-2	0.080	0.029	0.02	0.05		AM
Strontium 90	10098-97-2	3.5	2.0	1	1		Y
Carbon 14	14762-75-5	-0.74	4.5	5	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	14	1.4				GAM
Iron 59		U		1	0.05	U	GAM
Chromium 51	14392-02-0	U		8		U	GAM
Cobalt 60	10198-40-0	22	0.45		0.05		GAM
Zinc 65	17982-39-3	U		0.9		U	GAM
Ruthenium 106	13967-48-1	U		2		U	GAM
Cesium 134	17967-70-9	U		0.3		U	GAM
Cesium 137	10045-97-3	17	0.38		0.05		GAM
Europium 152	14683-23-9	23	0.73		0.1		GAM
Europium 154	15585-10-1	3.2	0.52		0.1		GAM
Radium 226	13982-67-7	0.48	0.25				GAM
Thorium 228	14274-82-9	0.82	0.14				GAM
Thorium 232	7440-29-1	0.82	0.60				GAM

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	03/02/93

9613492.8396

N211145-03

TMA NORCAL
REPORTING GROUP 7127

DATA SHEET

B07HK1

SDG	7127	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211145-03	Client sample id	B07HK1
Dept sample id	7127-003	Matrix	SOIL
Received	11/17/92	Collected	11/12/92
% moisture	2.2	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	5.1	4.5	5	10	J	80A
Gross Beta	Beta	22	4.3	5	10		80B
Uranium 233/234		0.35	0.14	0.1	0.3		U
Uranium 235	15117-96-1	0.016	0.033	0.1	0.3	U	U
Uranium 238	7440-61-1	0.56	0.17	0.1	0.3		U
Plutonium 238	13981-16-3	-0.004	0.025	0.05	0.05	U	PU
Plutonium 239/240		0	0.008	0.03	0.05	U	PU
Americium 241	14596-10-2	0	0.013	0.02	0.05	U	AM
Strontium 90	10098-97-2	2.1	0.39	1	1		Y
Carbon 14	14762-75-5	-2.0	4.2	5	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	13	1.1				GAM
Iron 59		U		0.5	0.05	U	GAM
Chromium 51	14392-02-0	U		2		U	GAM
Cobalt 60	10198-40-0	1.6	0.13		0.05		GAM
Zinc 65	17982-39-3	U		0.2		U	GAM
Ruthenium 106	13967-48-1	U		0.6		U	GAM
Cesium 134	17967-70-9	U		0.08		U	GAM
Cesium 137	10045-97-3	0.14	0.059		0.05		GAM
Europium 152	14683-23-9	0.40	0.092		0.1		GAM
Europium 154	15585-10-1	U		0.2	0.1	U	GAM
Radium 226	13982-67-7	0.50	0.11				GAM
Thorium 228	14274-82-9	0.69	0.062				GAM
Thorium 232	7440-29-1	0.58	0.25				GAM

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	03/02/93

9613492.8597

N211145-04

TMA NORCAL
REPORTING GROUP 7127

DATA SHEET

B07HK2

SDG	7127	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211145-04	Client sample id	B07HK2
Dept sample id	7127-004	Matrix	SOIL
Received	11/17/92	Collected	11/12/92
% moisture	2.0	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	4.9	4.3	5	10	U	80A
Gross Beta	Beta	17	4.1	5	10		80B
Uranium 233/234		0.48	0.16	0.09	0.3		U
Uranium 235	15117-96-1	0	0.027	0.1	0.3	U	U
Uranium 238	7440-61-1	0.34	0.12	0.09	0.3		U
Plutonium 238	13981-16-3	0.036	0.041	0.06	0.05	U	PU
Plutonium 239/240		-0.005	0.010	0.04	0.05	U	PU
Americium 241	14596-10-2	0.014	0.023	0.04	0.05	U	AM
Strontium 90	10098-97-2	2.5	0.39	1	1		Y
Carbon 14	14762-75-5	-4.4	3.7	4	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	12	0.96				GAM
Iron 59		U		0.3	0.05	U	GAM
Chromium 51	14392-02-0	U		2		U	GAM
Cobalt 60	10198-40-0	0.077	0.054		0.05		GAM
Zinc 65	17982-39-3	U		0.1		U	GAM
Ruthenium 106	13967-48-1	U		0.4		U	GAM
Cesium 134	17967-70-9	U		0.06		U	GAM
Cesium 137	10045-97-3	U		0.07	0.05	U	GAM
Europium 152	14683-23-9	U		0.1	0.1	U	GAM
Europium 154	15585-10-1	U		0.2	0.1	U	GAM
Radium 226	13982-67-7	0.44	0.092				GAM
Thorium 228	14274-82-9	0.85	0.097				GAM
Thorium 232	7440-29-1	0.48	0.20				GAM

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	03/02/93

9613492.8398

N211145-05

TMA NORCAL
REPORTING GROUP 7127

DATA SHEET

B07HK3

SDG	7127	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211145-05	Client sample id	B07HK3
Dept sample id	7127-005	Matrix	SOIL
Received	11/19/92	Collected	11/17/92
% moisture	6.4	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	5.9	5.2	6	10	U	80A
Gross Beta	Beta	15	4.0	5	10		80B
Uranium 233/234		0.40	0.16	0.1	0.3		U
Uranium 235	15117-96-1	0.036	0.037	0.1	0.3	U	U
Uranium 238	7440-61-1	0.63	0.19	0.1	0.3		U
Plutonium 238	13981-16-3	-0.016	0.048	0.1	0.05	U	PU
Plutonium 239/240		0.008	0.032	0.06	0.05	U	PU
Americium 241	14596-10-2	0.015	0.030	0.05	0.05	U	AM
Strontium 90	10098-97-2	0.010	2.2	1	1	U	Y
Carbon 14	14762-75-5	1.5	4.7	5	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	12	1.1				GAM
Iron 59		U		0.3	0.05	U	GAM
Chromium 51	14392-02-0	U		2		U	GAM
Cobalt 60	10198-40-0	U		0.05	0.05	U	GAM
Zinc 65	17982-39-3	U		0.2		U	GAM
Ruthenium 106	13967-48-1	U		0.4		U	GAM
Cesium 134	17967-70-9	0.052	0.033				GAM
Cesium 137	10045-97-3	0.067	0.043		0.05		GAM
Europium 152	14683-23-9	U		0.1	0.1	U	GAM
Europium 154	15585-10-1	U		0.07	0.1	U	GAM
Radium 226	13982-67-7	0.58	0.095				GAM
Thorium 228	14274-82-9	0.78	0.060				GAM
Thorium 232	7440-29-1	0.85	0.19				GAM

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	03/02/93

9613492.8399

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.W. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-~~FR-3~~ KR-1 WWS 11-11-92

Collection Date: 11-11-92

Ice Chest No.: KT-3

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.:

Offsite Property No.: OFSF 15870

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: ~~None~~ 4000 cpm WWS 11-13-92 detected with field instruments. Maintain at 4C.

Sample Identification

1) B07HJ9
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2) ~~B07HK0~~ WWS 11-4-92
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3) WWS
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by	Received by	Date/Time
W.W. Setzer	Kermit Blum Kermit Blum	11-16-92 0800 *
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/NORCAL 11-14-92 @ 1000; opened 11-16-92 · KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

49-A

9613492.8400

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-KR-1

Collection Date: 11-12-92

Ice Chest No.: KT-3

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.:

Offsite Property No.: OASR 15870

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) BOTHKO
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2)
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

WVS

3)
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: W.V. Setzer	Received by: Kermit Blum Kermit Blum	Date/Time: 11-16-92 0800*
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Dispo[illegible] by:	Date/Time:

Comments:

* Received @ TMA/NORCAL ON 11-14-92, opened 11-16-92 KB

Original file name is TMA COC.KR1

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

49-B

9613492.8401

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector WW SETZER Date 11·13·92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B07H59	S	11·11·92	1040	✓1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓1-120ml aG CLP;VOA ✓1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) ✓1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07HK0	S	11·12·92	0840	✓1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓1-120ml aG CLP;VOA ✓1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) ✓1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) WWS 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

*Type of Sample

A = Air	L = Liquid	SE = Sediment	T = Tissue	X = Other
DL = Drum Liquids	O = Oil	SL = Sludge	W = Water	
DS = Drum Solids	S = Soil	SO = Solid	WI = Wipe	

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards ~~NA~~ SAMPLES ARE RADIOACTIVE

A-6000-406 (06/91) WEF060

49-C

9613492.8402

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-KR-1

Collection Date: 11.12.92

Ice Chest No.: SML 275

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.: 2519006974

Offsite Property No.: W93-0-0002 #4

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) BOTHK1
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2) BOTHK2
- 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, Anions (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3)
- ~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
- 1,120ml aG:CLP;VOA
- 1,950ml aG:CLP;Semi-VOA,PCB/PEST, pH, ~~Anions~~ (IC) F,SO_4,NO_3-NO_2
- 1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,~~C-14,U-235~~/238,Pu-239/240,Am-241

wds

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	Kermit Blum	11-17-92 1130
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Dispo[illegible] by:	Date/Time:

Comments:

Original file name is TMA COC.KR1

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

49-D

9613492.8403

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector W.W. SETZER Date 11.16.92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B07HK1	S	11.12.92	1040	✓1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓1-120ml aG CLP;VOA ✓1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) ✓1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07HK2		11.12.92	1414	✓1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓1-120ml aG CLP;VOA ✓1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) ✓1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

*Type of Sample	A = Air	L = Liquid	SE = Sediment	T = Tissue	X = Other
	DL = Drum Liquids	O = Oil	SL = Sludge	W = Water	
	DS = Drum Solids	S = Soil	SO = Solid	WI = Wipe	

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

49LE

9613492.8404

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-~~FR-3~~ KR-1 WVS 11/18/92

Collection Date: 11-17-92

Ice Chest No.: C-2

Field Logbook No.: EFL- 1051

Bill of Lading/Airbill No.: 251 900 7095

Offsite Property No.: W93-0-0122 #2

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain al 4C.

Sample Identification

1) B07HK3
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2)
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3)
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

WVS

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	KB Hulse	11-18-92 1038
KB Hulse	Kermit Blum	11-19-92 1145

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

49-F

9613492.8405

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector W.W. SETZER Date 11-18-92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B07HK3	S	11-17-92	1000	✓1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓1-120ml aG CLP;VOA ✓1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) ✓1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241 WVS
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

S A N

*Type of Sample

A = Air	L = Liquid	SE = Sediment	T = Tissue	X = Other
DL = Drum Liquids	O = Oil	SL = Sludge	W = Water	
DS = Drum Solids	S = Soil	SO = Solid	WI = Wipe	

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

49-G

A/ARLI
F-HOUR RECEIVING OF EPA/CLP SAMPLES

Form: SCP-6-2
Rev. No. 01
Rev. Date: 7/29/91
Page No. _____

CONTAINER ID	RECEIVED		RELINQUISHED		TRANSPORTATION MODE	AIR BILL #	CONTAINER CONDITION		CONTAINER SEAL		HOLDING LOCATION
	DATE	TIME	DATE	TIME			INTACT	NOT INTACT	INTACT	NOT INTACT	
white cooler	DATE 11-14	TIME	DATE	TIME	RED-EX	286-796-645-2	X		X		Refrig 6 A,B
	BY	10:00	BY								
↓	DATE ↓	TIME 2:30	DATE	TIME	Emery	251-900 693-0	X		X		Refrig 6 B,C
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								

00 8 2 0 1 3 2 9 6

EMERGENCY CONTACT 509-373-3800 ERG #61

OFFSITE RADIOACTIVE SHIPMENT RECORD
– EXTERIOR INSPECTION PERMITTED –

15870

SHIPPING INST.

SHIP TO:
Company: TMA/Norcal
Address: 2030 Wright Ave
City, State, Zip: Richmond, CA 94804
Attention: Delores Sanchez

Contractor: ☐ PNL ☐ KEH ☒ WHC
Site Carrier: W.V. SETZER
PR No. 84279 Veh. No. ID2831

Ship: ☒ Prepaid ☐ Collect Via: Sat. DEL. OK
☐ Motor-Rail ☒ Air Pssgr.
☐ Excl. Use ☒ Air Cargo
☐ DOE Veh. ☐ Mail
☐ UPS Sur. ☐

SHIPMENT DESCRIPTION AND CERTIFICATION

Proper Shipping Name — UN Number
Radioactive Material,
1. Empty Packages ☐ UN 2908
2. Low Specific Activity, n.o.s ☐ UN 2912
3. Limited quantity, n.o.s. ☒ UN 2910
4. N.O.S. ☐ UN 2982
5. Fissile n.o.s. ☐ UN 2918
6. Special Form, n.o.s. ☐ UN 2974
7. Instruments & Articles ☐ UN 2911
8. ☐

Material Form: ☐ Special (A1) ☒ Normal (A2)

Labels Applied: ☐ Empty ☐ Radioactive LSA ☐ White I ☐ Yellow II ☐ Yellow III ☒ None ☐ Danger (Air Cargo) ☐ Secondary

Material Category: ☐ Empty ☐ Low Specific Act. (LSA) ☒ Limited Quantity ☐ Type A Quantity ☐ Type B Quantity ☐ Highway Route Controlled Quantity

For Normal Form Identify:
Physical Form: ☒ Solid ☐ Liquid ☐ Gas
Chemical Form: ☐ Metal ☐ Oxide ☒ Elemental ☐ Nitrate
Other

TYPE PACKAGE: ☒ Strong Tight ☐ Type A ☐ Type B ☐ Type B (U) ☐ Type B (M)

CONSTRUCTION: ☐ Box, FB ☐ Wood ☐ Steel ☐ Drum ☐ Cask ☒ Other Poly Cooler

FISSILE CLASS: ☒ Non Fissile ☐ Fissile Exempt ☐ Fissile I ☐ Fissile II ☐ Fissile III
Grams Fissile

SNM: ☒ No ☐ Yes ☐ <1 gr ☐ Category I ☐ Category II ☐ Category III

ACCOUNTABILITY/SECURITY CONTROL
☐ Classified ☒ Unclassified
Consignee authorized to receive this qty ☒
Sig. Security Svc. Req. NA ☐ NA ☒
Pu, EU > 1 g ☐ NA NU, DU > 1 Kg ☐ NA
Security Escorts Req. ☐ Not. Req. ☒
External Cask Temperature N/A ☒
(Max. 122°F LTL, 180°F Ex. Use) °F

Packaging conforms to appropriate packaging procedure ☐ N/A ☒ Yes
Complies with D.O.T. packaging marking and labeling requirements ☐ N/A ☒ Yes
Container acceptability documented (incl. 7A cert.) ☒ N/A ☐ Yes

Container examined: No evidence of deterioration or damage ☒ Yes
QA Inspection Current ☐ Yes ☒ N/A Seals required ☒ No ☐ Yes
Shipping Doc. 49 CFR 173.421 Authorization No. NA

No. Pkgs.	Model Package	COC/Spec. No.	Seal No.	Seal No.	Isotopes	Curies/Pkg	T.I.	Gr. Wt.
1	Strong tight	NA	KT-3	NA	MFP	<.0004	NA	71 Lb.
Soil samples in glass bottles; Bottles are double-bagged and packed in wet ice surrounded b								
vermiculite absorbent. This package conforms to the conditions and limitations specified i								
49 CFR 173.421 for accepted radioactive material, limited quantity, N.O.S. UN2910.								
Sample #	B07HJ9	B07HK0	8 Bottles 4700mL			<.0004		
(Shipper may describe package in detail on one of unused lines above)					TOTAL	<.0004	NA	71 LB.

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable federal, state, local and international regulations for the transportation of hazardous materials.

Certifier's Signature: W.V. Setzer Date: 11-13-92 Organization: Env.Field Services Complete Cost Code (inc. end function): 81710 / PBIAP

AREA MONITOR

Surface Dose Rate of Package: ☒ ≤0.5 or ___ mrem/hr (N + βγ)
Dose Rate at 1 Meter from Surface of Package: ☒ ≤0.5 or ___ mrem/hr (N + βγ)
Smears of Outer Container: ☒ ≤22 dpm βγ/cm² ☒ ≤2.2 dpm α/cm²
TRUCK LOAD OR EXCLUSIVE USE
Surface: ☒ ≤ 200 mrem/hr (N + βγ)
@ 6 feet: ☒ ≤ 10 mrem/hr (N + βγ)
@ Cab or Sleeper ☒ ≤ 2.0 mrem/hr (N + βγ)

Additional Data and Instructions (inc. Readings on Internal Packaging)

Signature - Radiation Monitoring: Bldg. 100 K Survey No. 112416 Date 11-13-92

AUTHORIZATION FOR SHIPMENT

APPROVAL

AIR TRANSPORT CERTIFICATION ▸ Cargo Only: ☐ Danger Labels Applied
Passenger: ☒ 1. Ltd. Qty. ☒ 3. Research or Medical Diagnosis ☐ 2. ≤3 T.I. ☐ 4. Human Medical Research
Pkg. Dimensions: 24 X 18 X 14

Traffic has inspected and verified preshipment compliance to DOT regulations.
Authorized Signature ▸ Ronald L. Clawson Printed Name ▸ RONALD L. CLAWSON Date ▸ 11-13-92

APPROVED FOR OFFSITE SHIPMENT

TRAFFIC

B. L. No. RMW-7922 Date Shipped 11/13/92 E.T.A. 11/14/92 Routing ~~Emory~~ FED X ☐ N/A Placards ☐ Yes ☒ No
Surveyed By Miguel Haze Date 11-13-92 Approved for Shipment Westinghouse Hanford Company Date 11/13/92 Route Plan ☐ Yes ☒ No

49-I

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

PACKAGE TRACKING NUMBER

2867966452

Date 11-13-92

RECIPIENT'S COPY

From (Your Name) Please Print: J.E. MAXWELL

Your Phone Number (Very Important): (509) 376-7493

Company: U.S. DEPT. OF ENERGY c/o WESTINGHOUSE HANFORD COMPANY

Department/Floor No.

Street Address: PO BOX 1970, G2-03

(EMERGENCY CONTACT PHONE) (NUMBER 509-373-3800)

City: RICHLAND State: WA ZIP Required: 99352

To (Recipient's Name) Please Print: DELORES SANCHEZ

Recipient's Phone Number (Very Important): ( )

Company: TMA/NORCAL

Department/Floor No.

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 2030 WRIGHT AVENUE

City: RICHMOND State: CA ZIP Required: 94804

YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice.) RMW-7922 81710 PB1AP

RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL
DOT EMERGENCY RESPONSE GUIDE # 61 ATTACHED

IF HOLD FOR PICK-UP, Print FEDEX Address Here (Not available at all locations)

Street Address

City State ZIP Required

PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)	Standard Overnight (Delivery by next business afternoon†)
11 [X]	51 [ ]
Economy Two-Day (Delivery by second business day†)	**Government Overnight** (Restricted to authorized users only)
30 [ ]	41 [ ]

Freight Service (for Extra Large or any package over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT ** (Confirmed reservation required) 80 [ ] TWO-DAY FREIGHT **

† Delivery commitment may be later in some areas. *Declared Value Limit $100. **Call for delivery schedule.

INSTRUCTIONS (Mark appropriate boxes)
- Dangerous Goods as per attached Shipper's Declaration [ ]
- Dangerous Goods Shipper's Declaration not required [X]
- Cargo Aircraft only [ ]

DELIVERY AND SPECIAL HANDLING (Check services required)
1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [ ] DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [X]
4 [X] DANGEROUS GOODS (Extra charge)
6 [ ] DRY ICE Lbs
- Dangerous Goods Shipper's Declaration not required
- Dry Ice, 9, UN 1845,

x kg.
7 [ ] OTHER SPECIAL SERVICE
11 [ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

PACKAGES	WEIGHT In Pounds Only
1	71
Total 1	Total 71

DIM SHIPMENT (Chargeable Weight) [ ] lbs.

Received At: [X] 1 Regular Stop 3 [ ] Drop Box 4 [ ] BSC 5 [ ] Station [ ] On-Call Stop

FedEx Emp. No. Date/Time

Emp. No. Date

[ ] Cash Received [ ] Return Shipment [ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold.

Street Address

City State Zip

Received By: X

Date/Time Received FedEx Employee Number

SIGNATURE RELEASE UNAVAILABLE

Federal Express Use: Base Charges; Declared Value Charge; Other 1; Other 2; Total Charges

REVISION DATE 2/91 PART # 137211 FORMAT #069 MBFAN 4/91

069

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PAGE 1 of 2

AIRBILL PACKAGE TRACKING NUMBER 2867966452

2867966452

2 8 6 7 9 6 6 4 5 2

0981-0127-6 11-13-92

J.E. MAXWELL 509 376-7493 DELORES SANCHEZ

U.S. DEPT. OF ENERGY c/o WESTINGHOUSE HANFORD COMPANY TMA/NORCAL

(EMERGENCY CONTACT PHONE) (NUMBER 509-373-3800)

PO BOX 1970, G2-03 2030 WRIGHT AVENUE

RICHLAND WA 99352 RICHMOND CA 94804

RMW-7922 81710 PB1AP

RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL
DOT EMERGENCY RESPONSE GUIDE # 61 ATTACHED

X

1 71

X

1 71

X

SIGNATURE RELEASE UNAVAILABLE

REVISION DATE 2/91 MBFAN 4/91

069

X

49-J

9613492.8409

Overnight Delivery

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
Westinghouse Hanford Company		W93-0-0002 #45

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env Eng & Geotech	EFSG	Env Charac & Sampling

The following items are to be shipped from [X] Contractor [ ] Vendor

Routing Air [X] Contractor [ ] Vendor

Shipped to
TMA/NORCAL
2030 WRIGHT AVE
RICHMOND, CA 94804

Off-site Custodian: Delores Sanchez

Full Title: Project Coordinator

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 60lb.	Sml 275 poly cooler. Contains soil samples that are double-bagged and packed in wet ice and vermiculite. Samples are nonhazardous. Sample #: A07HK1, A07HK2	N/A

[ ] Classified [X] Unclassified [ ] Shipped Under DOE Contract [ ] Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

To support drilling and sampling at the 100 Areas.

Bill of Lading: 351 100 L 174

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date

Location of Property (Area & Bldg.)	Contact	Phone
100 Area	W. V. Setzer	376-2413

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
11.16.92	A131B ~~PBBA5~~ 12200	N/A

Originated By	Date	Authorized By	Date
W.V. Setzer W.V. Setzer 13:50	11.16.92	W.V. Setzer	11.16.92
Signature and Name of Property Control	**Custodian Date**	**Property Management Approval**	**Date**

Relinquished by:

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
[signature]				
Date 11-16-92				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

49-k

54-3000-479 (09/89)

147

FORM OF PAYMENT

Check ☐ GBL ☐ FCCOD ☐

Bill to Shipper [X] Bill to Consignee ☐ Third Party Billing ☐

EMERY WORLDWIDE — A CF Company

SERVICES **

UNITED STATES / CANADA: Same Day (Extra Charges) ☐ · [X] AM ☐ PM ☐ · Second Day ☐ · Saturday Delivery ☐ · Standard Plus ☐ · Preferred ☐ · Standard ☐

INTERNATIONAL: Express ☐ · Business Documents ☐ · Customs Clearance ☐ · Delivery ☐

E Shipper's Account Number: 850281585

Date: 11-16-92 · Origin: PSC · Shipment Number: 251900697 4

From:
WESTINGHOUSE SHIPPING DEPT. (509) 376-6665
U.S. DEPARTMENT OF ENERGY C/O
WESTINGHOUSE HANFORD
BLDG 1163
2355 STEVENS DRIVE
RICHLAND WA
Canada ☐

To:
DELORES SANCHEZ
TMA/NORCAL
2030 WRIGHT AVENUE
RICHMOND CA
Hold for Pick Up ☐
Canada ☐

Tariff Dest. | Gateway

Check to Shipper $

EMERY WORLDWIDE will accept Consignee's check with all risks being assumed by Shipper, including but not limited to non-payment, fraud and misrepresentation.

Customer's Reference Numbers: W12200 P131B W93-0-0002 #45 99352

E Consignee's Account Number: 94804

Description	Pcs.	L	W	H	Total Pieces	Total Weight (In Lbs.)
1 COOLER SNL 275 SOIL SAMPLES B07HK1, B07HK2	1	27	16	12	1	60

FOR INFORMATION OR RATES CALL 1-800 44 EMERY (1-800-443-6379)

Declared Value $

251900697 4

49-7

Remarks: OVERNIGHT DELIVERY

Shipper's Signature: J. Arnaut 11/16/92

Zip Ship ☐
For shipments within the 50 United States Shipper has the option to check this box and, by checking, agrees that the Zip Ship conditions, described in the area to the right, apply.

Mark if Emery Packaging is used: Urgent Letter 9X12 ☐ · Urgent Pack 12X15 ☐

International Shipments: Free Domicile ☐ · Commodity Code

Third Party Account Number mandatory for Third Party Billing. E · Third Party Account Number

International Customs Value · International Insurance

Base Charge

Total Transportation Charges · Other Charges/Advance at Origin ☐ OC/AO- $

1-OAK-A

Terms and conditions on back

B07HJ1-TMA-352 ~~B07HK3-TMA-376~~

000001

FEB 1993
RECEIVED
OSM DMO

CASE NO. 11-058

DATA SUMMARY REPORT
ORGANICS

PREPARED BY:

TMA ARLI
160 TAYLOR ST.
MONROVIA CA 91016

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 11-058

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : November 19, 1992

1.0 DESCRIPTION OF CASE :

One soil sample was analyzed for TCL Organics-Volatiles, Semivolatiles, Pesticides/PCBs according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, Revision OLM01.8.

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	ANALYSIS REQUESTED	MATRIX
B07HK3	A2-11-058-01A	V	SOIL
B07HK3 MS	A2-11-058-01B	V	SOIL
B07HK3 MSD	A2-11-058-01C	V	SOIL
B07HK3	A2-11-058-01D	SV & P	SOIL
B07HK3 MS	A2-11-058-01E	SV & P	SOIL
B07HK3 MSD	A2-11-058-01F	SV & P	SOIL

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

All of the samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were analyzed by heated purge within the CLP SOW holding times.

All of the QC results were within the limits specified by the EPA CLP SOW.

TUNES :

All of the BFB tunes are injected directly into the GC/MS instrument.

3.2.2 SEMIVOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times.

All of the QC results were within the limits specified by the EPA CLP SOW.

3.2.3 PESTICIDE/PCB ANALYSIS :

SEQUENCE NOTES :

The sequence was started on 12/21/92 and analyzed in accordance with the EPA CLP SOW. The sequence was analyzed by single injection into a dual column system. After the injection on 12/22/92, at 04:31 AM, the autosampler malfunctioned. After maintenance the sequence was resumed with the injection of PIBLK03 on 12/22/92 at 07:53 AM and was followed by PEM03. The samples that were injected between PEM02 and PEM03 were re-injected later in the sequence. The sequence met all the QC criteria specified in the CLP SOW.

The Chromatograms are presented in the manner consistent with the capabilities of the Nelson 2700 Turbochrome Data System which normalizes the largest peak to scale.

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. Sample B07HK3MSD had a TCX surrogate recovery on the DB-608 column slightly below the advisory QC limit.

All of the other results were within the limits specified by the EPA CLP SOW.

We 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 in this hardcopy data package and in the computer-readable data submitted on diskette is authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Nicole Roth
CLP Program Manager

Wida Ang
Organics Supervisor

9613492.8415

000005

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HK3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11058 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211058-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21123R06

Level: (low/med) LOW Date Received: 11/19/92

% Moisture: not dec. 7 Date Analyzed: 11/23/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	6	BJ
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

9613492.8416

000006

EPA SAMPLE NO.

B07HK3

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11058 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211058-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21123R06

Level: (low/med) LOW Date Received: 11/19/92

% Moisture: not dec. 7 Date Analyzed: 11/23/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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000007
EPA SAMPLE NO.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07HK3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11058 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211058-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21204N03

Level: (low/med) LOW Date Received: 11/19/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 11/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 12/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)Ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-Propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)Methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-Methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	840	U

9613492.8418

000008

EPA SAMPLE NO.

B07HK3

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11058 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211058-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21204N03

Level: (low/med) LOW Date Received: 11/19/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 11/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 12/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	840	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	840	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-Butylphthalate	41	BJ
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	350	U
56-55-3	Benzo(a)Anthracene	350	U
117-81-7	bis(2-Ethylhexyl)Phthalate	350	U
218-01-9	Chrysene	350	U
117-84-0	Di-n-Octyl Phthalate	350	U
205-99-2	Benzo(b)Fluoranthene	350	U
207-08-9	Benzo(k)Fluoranthene	350	U
50-32-8	Benzo(a)Pyrene	350	U
193-39-5	Indeno(1,2,3-cd)Pyrene	350	U
53-70-3	Dibenz(a,h)Anthracene	350	U
191-24-2	Benzo(g,h,i)Perylene	350	U

(1) - Cannot be separated from Diphenylamine

9613492.8419

000009

EPA SAMPLE NO.

B07HK3

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11058 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211058-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21204N03

Level: (low/med) LOW Date Received: 11/19/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 11/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 12/04/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

Number TICs found: 17

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	3.63	3100	J
2.	UNKNOWN HYDROCARBON	3.90	35000	BJ
3.	UNKNOWN KETONE	4.32	140	J
4.	UNKNOWN KETONE	4.85	280	BJ
5.	UNKNOWN ALKENE	5.43	1300	BJ
6.	UNKNOWN KETONE	5.98	1000	BJ
7.	UNKNOWN HYDROCARBON	6.63	140	J
8.	UNKNOWN AMINE	7.32	22000	J
9.	UNKNOWN HYDROCARBON	7.63	35000	J
10.	UNKNOWN HYDROCARBON	8.00	350	J
11.	UNKNOWN ALKANE	8.33	70	J
12.	UNKNOWN HYDROCARBON	8.55	2300	BJ
13.	UNKNOWN KETONE	8.75	670	BJ
14.	UNKNOWN HYDROCARBON	9.40	70	J
15.	UNKNOWN ALKANE	9.47	180	BJ
16.	SUBSTITUTED BENZENE	9.97	110	J
17.	UNKNOWN KETONE	14.72	180	BJ

9613492.8420

000010

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HK3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11058 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211058-01D

Sample wt/vol: 30.7 (g/mL) G Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N Date Received: 11/19/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/23/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 12/22/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.8 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.5	U
7421-36-3	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

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TM.

RECORD COPY

FEB 1993
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WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

ORGANICS & GENERAL CHEMISTRY
Case No. 11-058
(TMA/ARLI Work Order # A2-11-058)

METALS & NITRATE/NITRITE
Case No. N2-11-154
(TMA/Skinner & Sherman W.O. # S2-11-273 & S2-11-274)

February 1, 1993

TMA Master Work Order N2-11-154

9613492.8422

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

GENERAL CHEMISTRY
CASE NO. 11-058
(TMA/ARLI Work Order # A2-11-058)

ORGANICS
CASE NO. 11-058
(TMA/ARLI Work Order # A2-11-058)

General Chemistry and Organics results are presented for the following WHC SOIL sample(s):

B07HK3

Norcal Work Order # N2-11-154

Thermo Analytical Inc.
160 Taylor Street
Monrovia, CA 91016
(818) 357-3247

9613492.8423

000002

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-11-154

RCVD: 11/19/92 DUE: 01/03/93 11/19/92 15:24:24 KEEP: 04/03/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01A-S	B07HK3	ARLI	WH014	WH015	WH016	WH217	WH232
01C	~~B07HK3-NG~~	ARLI	WH014	WH015	WH016	WH232	
01D	~~B07HK3-HSB~~	ARLI	WH014	WH015	WH016		
01E-S	~~B07HK3-BOP~~	ARLI	WH217	WH232			

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Kermit Blum	11-19-92	ARLI		Judy [illegible]	11/20/92

9613492.8424

000002A

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.W. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-~~FR-3~~ KR-1 WVS 11/18/92

Collection Date: 11-17-92

Ice Chest No.: C-2

Field Logbook No.: EFL- 1051

Bill of Lading/Airbill No.: 251 900 7095

Offsite Property No.: W93-0-0122 #2

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B07HK3
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2)
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3)
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

WVS

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.W. Setzer	KB Hulse	11-18-92 1038
Relinquished by: KB Hulse	Received by: Kermit Blum	Date/Time: 11-19-92 1145
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9613492.8425

000002B

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector W.U. SETZER Date 11·18·92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B7HK3	S	11-17-92	1000	✓ 1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓ 1-120ml aG CLP;VOA ✓ 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) ✓ 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241 WVS
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

*Type of Sample

A = Air	L = Liquid	SE = Sediment	T = Tissue	X = Other
DL = Drum Liquids	O = Oil	SL = Sludge	W = Water	
DS = Drum Solids	S = Soil	SO = Solid	WI = Wipe	

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

9613492.8426

SAMPLE LOG-IN SHEET

LAB NAME : TNA/ARLI

PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): Trudy Golub

LOG-IN-DATE : 11/20/92

RECEIVED BY (SIGNATURE): Trudy Golub

CASE NUMBER:

SAMPLE DELIVERY GROUP NO.:

SAS NUMBER:

REMARKS: IT-47

1. Custody Seal(s) — Present/Absent* Intact/Broken
2. Custody Seal Nos: _____
3. Chain of Custody Records — Present/Absent*
4. Traffic Reports or Packing List — Present/Absent*
5. Airbill — Airbill/Sticker Present/Absent*
6. Airbill No.: 5188042226
7. Sample Tags — Present/Absent*
8. Sample Tags Numbers — Listed/Not Listed on Chain of Custody
9. Sample Condition: — Intact/Broken*/Leaking
10. Does information on custody records, traffic reports, and sample tags agree — Yes/No*
11. Date Recieved at Lab: 11/20/92
12. Temp of ice chest: 4 °C
13. Time Recieved: 0930

SAMPLE TRANSFER

Fraction: _____

Area #: _____

By: _____

On: _____

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B07HK3	42-11-058-01	

* Contact SMO and attach record of resolution

Reviewed By: _____ Logbook No.: _____

Date: _____ Logbook Page No.: _____

FORM DC-1

9613492.8427

000004

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 11/20/92 COMPANY [illegible] (WHC) OTHER ORD # 5188042226

Surveyor's Name [illegible]

Model No. HP-210 / ESP-1 Model No. AC-3-7 / ESP-1

Serial Nos. 710289 / 02619 Serial Nos. 407726 / 02628

Calibration Date 3/25/92 Calibration Date 8/1/92

Instrument Calibration Factor 0.250 Instrument Calibration Factor 0.188

Sample	Location	HP-210 CPM	HP-210 Factor	HP-210 DPM	AC-3-7 CPM	AC-3-7 Factor	AC-3-7 DPM	Spillage or Breakage?	Activity, nCi/mL or nCi/g
Background		42.0			1.0				
Consistency		7240	0.2911		5110	0.1878			
Smear: SML-275		70.0 ~~43.0~~			14.0				
Small Red.		43.0			2.0				
Reported	(WHC).	B07	JZ1	108 pCi/g	(1 Kg).		2.92 pCi	/ 5 Kg =	0.058
		B07N	C4	45.4 "		"			~~58 mCi~~
		B07N	C5	42.3 "		"			
		B07N	CC	49.5 "		"			
		B07N	C7.	46.7 "		"			
		Triplicate B07N	J3 non Rad.						

Comments:

All OK ✓ Approved DLK

Not OK Date 11/20/92

Form: ARLI RA-01
Rev: 06

01/15/9

9613492.8428

00000

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 51880422

2 37r 5188042226

[redacted]

Date 11 14 92

RECIPIENT'S COPY

1 From (Your Name) Please Print: SAMPLE CONTACT

Your Phone Number (Very Important): 818-235-2033

Company: I N A /NORCAL

Department/Floor No.:

Street Address: 2630 WRIGHT AVE

City: RICHMOND State: CA ZIP Required: 94804

2 To (Recipient's Name) Please Print: SAMPLE CONTACT

Recipient's Phone Number: ( )

Company: TMC/ ARI

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes): 166 TAylor Street

City: MONROVIA State: CA ZIP Required: 91016

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2320 6406

H IF HOLD FOR PICK-UP, Print FEDEX Address Here: Street Address / City / State / ZIP Required

3 PAYMENT 1 [x] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

[redacted]

4 SERVICES (Check only one box)

Priority Overnight: 11 [x] YOUR PACKAGING; 16 [ ] FEDEX LETTER*; 12 [ ] FEDEX PAK*; 13 [ ] FEDEX BOX; 14 [ ] FEDEX TUBE

Standard Overnight: 51 [ ] YOUR PACKAGING; 56 [ ] FEDEX LETTER*; 52 [ ] FEDEX PAK*; 53 [ ] FEDEX BOX; 54 [ ] FEDEX TUBE

Economy Two-Day: 30 [ ] ECONOMY

Government Overnight: 46 [ ] GOVT LETTER; 41 [ ] GOVT PACKAGE

Freight Service: 70 [ ] OVERNIGHT FREIGHT**; 80 [ ] TWO-DAY FREIGHT**

†Delivery commitment may be later in some areas. *Declared Value Limit $500. **Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [x] DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) [ ]
4 DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE Lbs.
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
10 [ ]
11 [ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES / WEIGHT in Pounds Only / YOUR DECLARED VALUE

Total / Total / Total: 2 61

DIM SHIPMENT (Chargeable Weight) [ ] lbs.

L x W x H

Received At: 1 [x] Regular Stop; 2 [ ] On-Call Stop; 3 [ ] Drop Box; 4 [ ] B S C; 5 [ ] Station

7 Release Signature

Emp. No. / Date

[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To-Dest. [ ] Chg. To Hold

Street Address

City / State / Zip

Received By: X

Date/Time Received / FedEx Employee Number

Federal / Base Ch. / Declared / Other 1 / Other 2 / Total Ch.

REVISION / PART #13 / FORMAT 121

© 1991 92 PRINTED IN U.S.A.

TMA Inc. REPORT Work Order # A2-11-058

Received: 11/19/92 Results by Sample

SAMPLE ID B07HK3 FRACTION 01G TEST CODE VCCLPS NAME Anions in Solids - VH232

Date & Time Collected 11/17/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.7	mg/Kg	0.2
Sulfate	300.0	3	mg/Kg	2.

FORM I

9613492.8430

TMA

Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

QUALITY ENVIRONMENTAL SERVICES

FEB 1993
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Report for

TMA/Norcal

WORK ORDER #S211274

Scientific Services Since 19

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

9613492.8431

000001

2/151

Page 1 Skinner&Sherman REPORT Work Order # S2-11-274

Received: 11/20/92 01/06/93 13:09:23

REPORT TMA/NORCAL
TO 2030 Wright Avenue
Richmond, CA 94804

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 2
COMPANY TMA/NORCAL
FACILITY Richmond, CA

PREPARED TMA / Skinner & Sherman Labs.
BY 300 Second Avenue
P.O. Box 521
Waltham, MA 02254
ATTEN Client Services
PHONE (617) 890-7200

CERTIFIED BY

CONTACT DP

WORK ID N2-11-154
TAKEN BY CLIENT
TRANS FED EX
TYPE SOIL
P.O. # N2-11-154
INVOICE under separate cover

SAMPLE IDENTIFICATION		TEST CODES and NAMES used on this workorder	
01 B07HK3		NO3NO2	Nitrate Plus Nitrite
01 B07HK3	DUPL		
01 B07HK3	SPIKE		
02 LCSS			

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is settled. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Cl will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the inv amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. exercises due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

9613492.8432

000002

 Skinner&Sherman REPORT Work Order # S2-11-274

Received: 11/20/92

Results by Sample

SAMPLE ID B07MK3 SAMPLE # 01 FRACTIONS: A

Date & Time Collected 11/17/92 Category SOIL

NO3NO2 <2.44
mg N/kg

SAMPLE ID B07MK3 DUPL SAMPLE # 01 FRACTIONS: B

Date & Time Collected 11/17/92 Category SOIL

NO3NO2 <2.48
mg N/kg

SAMPLE ID B07MK3 SPIKE SAMPLE # 01 FRACTIONS: C

Date & Time Collected 11/17/92 Category SOIL

NO3NO2 20.5
mg N/kg

SAMPLE ID LCSS SAMPLE # 02 FRACTIONS: A

Date & Time Collected not specified Category SOIL

NO3NO2 1.94
mg N/L

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satis
Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted before the analysis. C
will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Our liability is limited to the inv
amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc.
exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are hel
thirty days following issuance of report, samples will be stored at client's expense if authorized in writing.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 617 890-7200
1-800-LAB TEST FAX (617) 890-3883

9613492.8433

TMA/Norcal CHAIN OF CUSTODY ORD # N2-11-154

RCVD: 11/19/92 DUE: 01/03/93 11/19/92 15:24:25 KEEP: 04/03/93 DISP: S

000040

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-S	B07HK3	S&S	WH001	WH002	WH004	WH005	WH233
01F-S	~~B07HK3 MS~~	S&S	WH001	WH002	WH004	WH005	WH233
01G-S	~~B07HK3 DUP~~	S&S	WH001	WH002	WH004	WH005	WH233
01H-S	~~LCS~~	S&S	WH001	WH002	WH004	WH005	WH233

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Kermit Blum	11-19-92	Skinner & Sheerman		[illegible]	11/20/92

9613492.8434

TMA
Thermo Analytical Inc.

Skinner & Sherman Labs., Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200
FAX (617) 890-3883

FEB 1993
RECEIVED
OSM DMO

RECORD COPY

January 5, 1993

TMA/NORCAL
2030 Wright Avenue
Richmond, CA 94804
Attention: Dan Stuermer

Quality Control Narrative

Scope
One (1) soil sample was submitted to TMA/Skinner & Sherman Laboratories, Inc. on November 20, 1992 from TMA/Norcal. The samples were analyzed for the USEPA CLP Target Analyte List metals and cyanide. The analysis were performed under TMA/Skinner and Sherman work order S211273.

Methodology
The samples were prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work ILM02.

Discussion
All quality control requirements were met for the samples with the following exceptions;

The antimony digestion spike recovery exceeded the control limit requirements.

The copper laboratory duplicates exceeded the control limit requirements.

Please feel free to call if there are any questions concerning this package.

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

David N. Peterson
Assistant Laboratory Manager

WESTINGHOUSE/HANFORD

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-154 SAS No.: SDG No.: B07HK3

SOW No.: ILM03.0

SAMPLE NUMBER:	Lab Sample ID.
B07HK3	11273-01S
B07HK3D	11273-01S2
B07HK3S	11273-01DS

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: Steven R Provencal Name: Steven R. Provencal

Date: 1/5/93 Title: Lead Chemist

9613492.8436

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HK3

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-154SAS No.: SDG No.: B07HK3

Matrix (soil/water): SOIL Lab Sample ID: 11273-01S

Level (low/med): LOW Date Received: 11/20/92

% Solids: 90.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8030			P
7440-36-0	Antimony	2.9	U	N	P
7440-38-2	Arsenic	1.9	B		F
7440-39-3	Barium	78.6			P
7440-41-7	Beryllium	0.44	B		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	3470			P
7440-47-3	Chromium	9.0			P
7440-48-4	Cobalt	10.7			P
7440-50-8	Copper	12.7		*	P
7439-89-6	Iron	20100			P
7439-92-1	Lead	5.4			F
7439-95-4	Magnesium	3580			P
7439-96-5	Manganese	366			P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	8.7			P
7440-09-7	Potassium	1470			P
7782-49-2	Selenium	0.82	U		F
7440-22-4	Silver	1.1	B		P
7440-23-5	Sodium	175	B		P
7440-28-0	Thallium	0.27	U	W	F
7440-62-2	Vanadium	44.9			P
7440-66-6	Zinc	39.7			P
	Cyanide	0.55	U		CA

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

002

9613492.8437

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-11-154

RCVD: 11/19/92 DUE: 01/03/93 11/19/92 15:24:25 KEEP: 04/03/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-S	B07HK3	S&S	WH001	WH002	WH004	WH005	WH233
01F-S	~~B07HK3-MS-~~	S&S	WH001	WH002	WH004	WH005	WH233
01G-S	~~B07HK3-DUP~~	S&S	WH001	WH002	WH004	WH005	WH233
01H-S	~~LCS-~~	S&S	WH001	WH002	WH004	WH005	WH233

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Kermit Blum	11-19-92	Skinner & Sherman		[illegible]	11/20/92

9613492.8438

2035

WC

000005

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R16

Level: (low/med) LOW Date Received: 11/02/92 10/27

% Moisture: not dec. 2 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	42	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

RB 3/30/93

9613492.8439

000006

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07HJ1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R16

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: not dec. 2 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	28.33	24	J

RB
3/30/93

9613492.8440 000006

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R12

Level: (low/med) LOW Date Received: 11/02/92 SD= 10/27

% Moisture: not dec. 4 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	14	~~B~~ U RB 3/20/93
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

BD 5/18/93

9613492.8441

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 000008

B07HJ2

e: TMA/ARLI Contract: WHC

e: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

(soil/water) SOIL Lab Sample ID: A211004-02A

wt/vol: 5.0 (g/mL) G Lab File ID: 21104R12

(low/med) LOW Date Received: 11/02/92

ure: not dec. 4 Date Analyzed: 11/04/92

mn: PACK ID: 2.00 (mm) Dilution Factor: 1.0

tract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

NO
3/30/92

9613492.8442

000009

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R13

Level: (low/med) LOW Date Received: 11/02/92 SD=10/2

% Moisture: not dec. 4 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	17	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

NB 3/20/9

5/18

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B07HJ3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R13

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: not dec. 4 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

RB
3/30/93

9613492.8444

000011

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21105R06

Level: (low/med) LOW Date Received: 11/02/92 SD=10/2

% Moisture: not dec. 4 Date Analyzed: 11/05/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	11	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

NB 3/30

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07HJ6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21105R06

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: not dec. 4 Date Analyzed: 11/05/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALCOHOL	28.28	9	J

RB
3/30/93

9613492.8446

000013

EPA SAMPLE NO.

B07HJ7

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R15

Level: (low/med) LOW Date Received: 11/02/92 SD-10.

% Moisture: not dec. 3 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	26	~~B~~ U.
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

RB 3/30/9

9613492.8447

000014

EPA SAMPLE NO.

B07HJ7

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21104R15

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: not dec. 3 Date Analyzed: 11/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	28.42	13	J

PB
3/30/93

9613492.8448

000015

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-01D

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 21118S16

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/18/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	800	U

HT's exc.

RB 3/30/9

9613492.8449

000016

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-01D

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 21118S16

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/18/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	800	UJ
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	290	J
7005-72-3	4-Chlorophenyl-phenylether	330	UJ
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	800	U
534-52-1	4,6-Dinitro-2-methylphenol	800	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	800	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	40	J
206-44-0	Fluoranthene	330	UJ
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	330	U
218-01-9	Chrysene	330	U
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

HT exceed

RB 3/30/9

(1) - Cannot be separated from Diphenylamine

9613492.8450

000017
EPA SAMPLE NO.

B07HJ1

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-01D

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 21118S16

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/18/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.62	22000	~~BJ~~ UJ
2.	UNKNOWN HYDROCARBON	5.83	82000	~~BJ~~ UJ
3.	UNKNOWN HYDROCARBON	6.13	330	J
4.	UNKNOWN HYDROCARBON	6.63	4300	J
5.	UNKNOWN KETONE	7.05	170	~~BJ~~ UJ
6.	UNKNOWN ALCOHOL	8.10	270	~~BJ~~
7.	HEXANEDIOIC ACID ESTER ISOME	24.38	130	~~BJ~~

RB
3/30/93

9613492.8451

000018

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-02B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21118S19

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	UJ
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	820	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	820	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	820	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	820	U

RB
2bol.
HT's
ok

5/8/

9613492.8452

000019

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-02B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21118S19

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	820	UJ
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	820	U
534-52-1	4,6-Dinitro-2-methylphenol	820	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	820	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	36	J
206-44-0	Fluoranthene	340	UJ
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	340	U
117-81-7	bis(2-Ethylhexyl)Phthalate	340	U
218-01-9	Chrysene	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	340	U
207-08-9	Benzo(k)Fluoranthene	340	U
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

HI exc RB 3/30/c

(1) - Cannot be separated from Diphenylamine

9613492.8453

000020

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07HJ2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-02B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21118S19

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.62	24000	J
2.	UNKNOWN HYDROCARBON	5.83	76000	~~BJ~~ UJ
3.	UNKNOWN HYDROCARBON	6.12	380	J
4.	UNKNOWN HYDROCARBON	6.60	4800	~~BJ~~ UJ
5.	UNKNOWN KETONE	6.78	620	J
6.	UNKNOWN KETONE	7.00	310	~~BJ~~ UJ
7.	UNKNOWN ALCOHOL	8.07	270	~~BJ~~ UJ
8.	UNKNOWN KETONE	12.48	140	J
9.	UNKNOWN COMPOUND	20.97	1200	J
10.	HEXANEDIOIC ACID ESTER ISOME	24.35	170	~~BJ~~ UJ

MB
3/30/93
HT's exceeded
+ blk. cont.

9613492.8454

000021

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-03B

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 21118S20

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	UJ
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	830	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	830	U

RB 3/30/ HT's

9613492.8455

000022

EPA SAMPLE NO.

B07HJ3

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-03B

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 21118S20

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	830	UJ
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-methylphenol	830	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	830	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	39	J
206-44-0	Fluoranthene	62	J
129-00-0	Pyrene	67	J
85-68-7	Butylbenzylphthalate	340	UJ
91-94-1	3,3'-Dichlorobenzidine	340	UJ
56-55-3	Benzo(a)Anthracene	53	J
117-81-7	bis(2-Ethylhexyl)Phthalate	340	UJ
218-01-9	Chrysene	340	UJ
117-84-0	Di-n-Octyl Phthalate	340	UJ
205-99-2	Benzo(b)Fluoranthene	46	J
207-08-9	Benzo(k)Fluoranthene	340	UJ
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

HT's exceed

RB 3/30/9

(1) - Cannot be separated from Diphenylamine

9613492.8456

000023

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B07HJ3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-03B

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 21118S20

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.62	69000	J
2.	UNKNOWN HYDROCARBON	5.83	74000	~~BJ~~ UJ
3.	UNKNOWN HYDROCARBON	6.12	340	J
4.	UNKNOWN HYDROCARBON	6.62	4500	~~BJ~~ UJ
5.	UNKNOWN KETONE	6.80	1200	J
6.	UNKNOWN KETONE	7.02	410	~~BJ~~ UJ
7.	UNKNOWN ALCOHOL	8.10	280	J
8.	UNKNOWN COMPOUND	21.00	1300	J
9.	HEXANEDIOIC ACID ESTER ISOME	24.38	1900	~~BJ~~ UJ

RB
3/30/93
HT's exceeds
blk cont.

9613492.8457

000024

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-04B

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21118S21

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	UJ
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	820	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	820	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	820	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	820	U

HT's
RB
3/39

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-04B

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21118S21

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	820	UJ
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	820	U
534-52-1	4,6-Dinitro-2-methylphenol	820	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	820	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	40	J
206-44-0	Fluoranthene	340	UJ
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	340	U
117-81-7	bis(2-Ethylhexyl)Phthalate	39	J
218-01-9	Chrysene	340	UJ
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	340	U
207-08-9	Benzo(k)Fluoranthene	340	U
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

RB 3/30/

HT's exce

(1) - Cannot be separated from Diphenylamine

9613492.8459

000026

EPA SAMPLE NO.

B07HJ6

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-04B

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21118S21

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.4

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.70	28000	J
2.	UNKNOWN HYDROCARBON	5.90	71000	~~BJ~~ UJ
3.	UNKNOWN HYDROCARBON	6.17	370	J
4.	UNKNOWN HYDROCARBON	6.63	5400	~~BJ~~ UJ
5.	UNKNOWN HYDROCARBON	6.80	310	J
6.	UNKNOWN KETONE	7.03	200	~~BJ~~ UJ
7.	UNKNOWN ALCOHOL	8.08	240	~~BJ~~ UJ

RB
3/30/93
HT's exceeded

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-05B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21118S22

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	UJ
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	820	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	820	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	820	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	820	U

RB 3/30/
HT's exce

9613492.8461

000028

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-05B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21118S22

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	820	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	820	U
534-52-1	4,6-Dinitro-2-methylphenol	820	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	820	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	340	U
117-81-7	bis(2-Ethylhexyl)Phthalate	340	U
218-01-9	Chrysene	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	340	U
207-08-9	Benzo(k)Fluoranthene	340	U
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

RB 3/30 HT's exceed

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07HJ7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-05B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21118S22

Level: (low/med) LOW Date Received: 11/02/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 11/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/19/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.62	68000	J
2.	UNKNOWN HYDROCARBON	5.83	73000	~~BJ~~ UJ
3.	UNKNOWN HYDROCARBON	6.12	310	J
4.	UNKNOWN HYDROCARBON	6.62	4500	~~BJ~~ UJ
5.	UNKNOWN KETONE	7.05	170	~~BJ~~ UJ
6.	UNKNOWN ALCOHOL	8.10	200	~~BJ~~ UJ
7.	UNKNOWN KETONE	12.52	100	J
8.	UNKNOWN CARBOXYLIC ACID ESTE	19.83	240	J
9.	HEXANEDIOIC ACID ESTER ISOME	24.42	5900	~~BJ~~ UJ

RB
3/30/93
HT's exceed
blk cont.

9613492.8463

000030

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-01D

Sample wt/vol: 30.3 (g/mL) G Lab File ID:

% Moisture: 2 decanted: (Y/N) N Date Received: 11/02/92 SD=10/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/09/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/18/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.5 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	UJ
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-36-3	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	68	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

HT's exceed MB 3/30/9 Highlight analy -cable RSD a

FORM I PEST 3/90

9613492.8464

000031

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-02B

Sample wt/vol: 30.2 (g/mL) G Lab File ID:

% Moisture: 4 decanted: (Y/N) N Date Received: 11/02/92 SD-Hio

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/09/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/18/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	UJ
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	69	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

RB 3/30/

HT's exceed holding and Cabt. Esc. out

5/10/93

9613492.8465

000032

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-03B

Sample wt/vol: 30.5 (g/mL) G Lab File ID:

% Moisture: 4 decanted: (Y/N) N Date Received: 11/02/92 SD=10

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/09/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/18/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.2 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	UJ
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	69	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

RB 3/30/

HT's exceed holding analysis when RSD out

5/18/

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-04B

Sample wt/vol: 30.4 (g/mL) G Lab File ID:

% Moisture: 4 decanted: (Y/N) N Date Received: 11/02/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/09/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/18/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.4 Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	1.7	UJ
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
% 8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	69	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

SD=10%

RB 3/30 HTS exceed holding analy

9613492.0467

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 000034

B07HJ7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11004 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211004-05B

Sample wt/vol: 30.6 (g/mL) G Lab File ID:

% Moisture: 3 decanted: (Y/N) N Date Received: 11/02/92 SD=11/25

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/09/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/18/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.5 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U J
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-36-3	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	68	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

RB 3/30 HT's exceed holding analysis cont. also

FORM I PEST 3/90

9613492.8468

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HJ1

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-005SAS No.: SDG No.: B07HJ1

Matrix (soil/water): SOIL Lab Sample ID: 11031-01S

Level (low/med): LOW Date Received: 11/03/92

% Solids: 98.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	50.3			P
7440-36-0	Antimony	2.9	U	N UJ	P
7440-38-2	Arsenic	0.56	U	U	F
7440-39-3	Barium	0.33	B	U	P
7440-41-7	Beryllium	0.06	U	U	P
7440-43-9	Cadmium	0.30	U	U	P
7440-70-2	Calcium	12.5	B	U	P
7440-47-3	Chromium	0.52	U	U	P
7440-48-4	Cobalt	0.26	U	U	P
7440-50-8	Copper	3.8	B	U	P
7439-89-6	Iron	192			P
7439-92-1	Lead	0.73			F
7439-95-4	Magnesium	4.6	B	U	P
7439-96-5	Manganese	0.39	B	U	P
7439-97-6	Mercury	0.04	U	N UJ	CV
7440-02-0	Nickel	0.52	U	U	P
7440-09-7	Potassium	15.8	U	U	P
7782-49-2	Selenium	0.73	U	N UJ	F
7440-22-4	Silver	0.72	U	U	P
7440-23-5	Sodium	29.8	B	U	P
7440-28-0	Thallium	0.25	U	U UJ	F
7440-62-2	Vanadium	0.50	U	U	P
7440-66-6	Zinc	1.1	U	U	P
	Cyanide	0.50	U	U	CA

Color Before: WHITE Clarity Before: Texture: FINE

Color After: WHITE Clarity After: Artifacts:

Comments: 4-1-93 SC

002

FORM I - IN

ILM02.1

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HJ2

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-005SAS No.: SDG No.: B07HJ1

Matrix (soil/water): SOIL Lab Sample ID: 11031-02S

Level (low/med): LOW Date Received: 11/03/92

% 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	5430			P
7440-36-0	Antimony	3.0	U	~~N~~ UJ	P
7440-38-2	Arsenic	1.0	~~B~~	~~W~~UJ	F
7440-39-3	Barium	60.6			P
7440-41-7	Beryllium	0.29	~~B~~	U	P
7440-43-9	Cadmium	0.30	U	U	P
7440-70-2	Calcium	5500			P
7440-47-3	Chromium	9.5			P
7440-48-4	Cobalt	11.3			P
7440-50-8	Copper	22.3			P
7439-89-6	Iron	22700			P
7439-92-1	Lead	6.4			F
7439-95-4	Magnesium	4390			P
7439-96-5	Manganese	303			P
7439-97-6	Mercury	0.05	U	~~N~~ UJ	CV
7440-02-0	Nickel	8.3			P
7440-09-7	Potassium	932	~~B~~		P
7782-49-2	Selenium	0.80	U	~~W~~N UJ	F
7440-22-4	Silver	0.72	U	U	P
7440-23-5	Sodium	238	~~B~~		P
7440-28-0	Thallium	0.27	U	~~N~~ UJ	F
7440-62-2	Vanadium	48.9			P
7440-66-6	Zinc	44.0			P
	Cyanide	0.52	U	U	CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

4-1-93 SC

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HJ3

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-005SAS No.: SDG No.: B07HJ1

Matrix (soil/water): SOIL Lab Sample ID: 11031-03S

Level (low/med): LOW Date Received: 11/03/92

% 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	6430			P
7440-36-0	Antimony	4.0	~~B~~	~~N~~ J	P
7440-38-2	Arsenic	1.6	~~B~~	~~W~~ UJ	F
7440-39-3	Barium	68.7			P
7440-41-7	Beryllium	0.39	~~B~~		P
7440-43-9	Cadmium	0.30	~~U~~	U	P
7440-70-2	Calcium	6360			P
7440-47-3	Chromium	10.3			P
7440-48-4	Cobalt	12.7			P
7440-50-8	Copper	20.3			P
7439-89-6	Iron	25500			P
7439-92-1	Lead	6.2			F
7439-95-4	Magnesium	4970			P
7439-96-5	Manganese	417			P
7439-97-6	Mercury	0.06	~~B~~	~~N~~ J	CV
7440-02-0	Nickel	9.6			P
7440-09-7	Potassium	1120			P
7782-49-2	Selenium	0.77	~~U~~	~~W~~N UJ	F
7440-22-4	Silver	0.79	~~B~~		P
7440-23-5	Sodium	287	~~B~~		P
7440-28-0	Thallium	0.26	~~U~~	~~W~~ U	F
7440-62-2	Vanadium	58.8			P
7440-66-6	Zinc	50.8			P
	Cyanide	0.51	~~U~~	U	CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

4-1-93 SC

9613492.8471

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

B07HJ6

INORGANIC ANALYSIS DATA SHEET

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-005SAS No.: SDG No.: B07HJ1

Matrix (soil/water): SOIL Lab Sample ID: 11031-04S

Level (low/med): LOW Date Received: 11/03/92

% Solids: 94.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6260			P
7440-36-0	Antimony	3.2	~~B~~	~~N~~ J	P
7440-38-2	Arsenic	0.94	~~B~~	~~S~~ U	F
7440-39-3	Barium	65.8			P
7440-41-7	Beryllium	0.26	~~B~~	U	P
7440-43-9	Cadmium	0.35	~~B~~	U	P
7440-70-2	Calcium	3820			P
7440-47-3	Chromium	12.4			P
7440-48-4	Cobalt	8.7	~~B~~		P
7440-50-8	Copper	14.8			P
7439-89-6	Iron	17100			P
7439-92-1	Lead	3.6			F
7439-95-4	Magnesium	3930			P
7439-96-5	Manganese	266			P
7439-97-6	Mercury	0.05	~~U~~	~~N~~ UJ	CV
7440-02-0	Nickel	8.1	~~B~~		P
7440-09-7	Potassium	889	~~B~~		P
7782-49-2	Selenium	0.77	~~U~~	~~WN~~ UJ	F
7440-22-4	Silver	0.73	~~U~~	U	P
7440-23-5	Sodium	357	~~B~~		P
7440-28-0	Thallium	0.26	~~U~~	~~W~~ UJ	F
7440-62-2	Vanadium	42.4			P
7440-66-6	Zinc	35.2			P
	Cyanide	0.50	~~U~~	U	CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

4-1-93 SC

Comments:
STONES

5/12/93

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HJ7

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-005SAS No.: SDG No.: B07HJ1

Matrix (soil/water): SOIL Lab Sample ID: 11031-05S

Level (low/med): LOW Date Received: 11/03/92

% Solids: 94.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5570			P
7440-36-0	Antimony	3.0	U	N UJ	P
7440-38-2	Arsenic	1.1	B	W UJ	F
7440-39-3	Barium	60.4			P
7440-41-7	Beryllium	0.22	B	U	P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	2820			P
7440-47-3	Chromium	11.1			P
7440-48-4	Cobalt	6.1	B		P
7440-50-8	Copper	12.0			P
7439-89-6	Iron	11900			P
7439-92-1	Lead	3.5			F
7439-95-4	Magnesium	3580			P
7439-96-5	Manganese	213			P
7439-97-6	Mercury	0.05	U	N UJ	CV
7440-02-0	Nickel	9.5			P
7440-09-7	Potassium	1130			P
7782-49-2	Selenium	0.79	U	WN UJ	F
7440-22-4	Silver	0.75	B	U	P
7440-23-5	Sodium	270	B		P
7440-28-0	Thallium	0.27	U	W UJ	F
7440-62-2	Vanadium	27.5			P
7440-66-6	Zinc	28.1			P
	Cyanide	0.52	U	U	CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

4-1-93 SC

Comments:
STONES

FORM I - IN

ILM02.1

TMA Inc. REPORT Work Order # A2-11-004

Received: 11/02/92 Results by Sample

SAMPLE ID B07NJ1 FRACTION 01G TEST CODE WCCLPS NAME Anions in Solids - WM232

Date & Time Collected 10/27/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.5	mg/Kg	0.2
pH	9045	7.5	pH	.1
Sulfate	300.0	7	mg/Kg	2

FORM I

4-1-93 SC

TMA Inc. REPORT Work Order # A2-11-004

Received: 11/02/92

Results by Sample

SAMPLE ID B07NJ2 FRACTION 02C TEST CODE VCCLPS NAME Anions in Solids - VM232

Date & Time Collected 10/29/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.4	mg/Kg	0.2
pH	9045	9.0	pH	.1
Sulfate	300.0	9	mg/Kg	2

FORM I

4-1-93 SC

BD 5/11/93

TMA Inc. REPORT Work Order # A2-11-004

Received: 11/02/92 Results by Sample

SAMPLE ID B07WJ3 FRACTION 03E TEST CODE WCCLPS NAME Anions in Solids - WW232

Date & Time Collected 10/29/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.5	mg/Kg	0.2
pH	9045	9.2	pH	.1
Sulfate	300.0	8	mg/Kg	2

FORM I

A-1-93 SC

PBD 11/11/93

9613492.B476

000014

TMA Inc. REPORT Work Order # A2-11-004

Received: 11/02/92

Results by Sample

SAMPLE ID B07NJ6 FRACTION 04C TEST CODE WCCLPS NAME Anions in Solids - WN232

Date & Time Collected 10/29/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.7	mg/Kg	0.2
pH	9045	9.4	pH	.1
Sulfate	300.0	15	mg/Kg	2

FORM I

4-1-93 SC

BS 9/12/93

9613492.8477

000013

TRA Inc. REPORT Work Order # A2-11-004

Received: 11/02/92

Results by Sample

SAMPLE ID B07NJ7 FRACTION 05C TEST CODE VCCLPS NAME Anions in Solids - VM232

Date & Time Collected 10/29/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.5 ✓	mg/Kg	0.2
pH	9045	9.5 ✓	pH	.1
Sulfate	300.0	9 ✓	mg/Kg	2

FORM I

4-1-93 SC

9613492.8478

2068

000005

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

WC

EPA SAMPLE NO.

B07HK1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21120R10

Level: (low/med) LOW Date Received: 11/17/92 SD= 11/12/92

% Moisture: not dec. 2 Date Analyzed: 11/20/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	27	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

NV

RB 3/3/9

blk cont

NV 5/19

9613492.8479

000006

EPA SAMPLE NO.

B07HK1

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21120R10

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: not dec. 2 Date Analyzed: 11/20/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

AB
3/3/93

9613492.8480

000007

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HK2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21120R13

Level: (low/med) LOW Date Received: 11/17/92 SDC 11/12/9

% Moisture: not dec. 2 Date Analyzed: 11/20/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	23	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	5	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

NV

RB 3/3/9

5/19/

9613492.8481

000008

EPA SAMPLE NO.

B07HK2

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21120R13

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: not dec. 2 Date Analyzed: 11/20/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

NV RB 3/3/93

9613492.8482

000009
EPA SAMPLE NO.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07HK1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 21130S11

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	800	U

NV
FF
3/3/93

NV 12/9/92

9613492.8483

000010
EPA SAMPLE NO.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07HK1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 21130S11

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	800	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	800	U
534-52-1	4,6-Dinitro-2-methylphenol	800	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	800	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	330	U
218-01-9	Chrysene	330	U
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

NV

3/3/93

9613492.8484

000011
EPA SAMPLE NO.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B07HK1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 21130S11

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.42	24000	BJ
2.	UNKNOWN HYDROCARBON	5.67	75000	BJ
3.	UNKNOWN HYDROCARBON	6.00	200	BJ
4.	UNKNOWN HYDROCARBON	6.48	3100	BJ
5.	UNKNOWN HYDROCARBON	6.70	130	BJ
6.	UNKNOWN KETONE	6.95	200	BJ
7.	UNKNOWN ALKANE	7.07	300	BJ
8.	UNKNOWN HYDROCARBON	7.32	100	J
9.	HEXANEDIOIC ACID ISOMER	24.33	67	BJ

NV RB 3/3/93

9613492.8485

000012
EPA SAMPLE NO.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07HK2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-02B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21130S12

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	810	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	810	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	810	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	810	U

NV

RB 3/3/

9613492.8486

000013

EPA SAMPLE NO.

B07HK2

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-02B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21130S12

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	810	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	98	J
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	810	U
534-52-1	4,6-Dinitro-2-methylphenol	810	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	810	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	330	U
218-01-9	Chrysene	330	U
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

NV

RB 3/3/?

9613492.8487

000014

EPA SAMPLE NO.

B07HK2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-02B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21130S12

Level: (low/med) LOW Date Received: 11/17/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.38	23000	BJ
2.	UNKNOWN HYDROCARBON	5.65	120000	BJ
3.	UNKNOWN HYDROCARBON	5.98	200	BJ
4.	UNKNOWN HYDROCARBON	6.48	3100	BJ
5.	UNKNOWN HYDROCARBON	6.70	100	BJ
6.	UNKNOWN KETONE	6.93	200	BJ
7.	UNKNOWN ALKANE	7.07	130	BJ
8.	UNKNOWN ALCOHOL	8.05	100	J
9.	HEXANEDIOIC ACID ISOMER	24.33	67	BJ
10.	UNKNOWN ALKANE	26.58	130	J

NV BB 3/3/93

9613492.0488

000013
EPA SAMPLE NO.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

B07HK1

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A211047-01D

ample wt/vol: 30.3 (g/mL) G Lab File ID:

Moisture: 2 decanted: (Y/N) N Date Received: 11/17/92

xtraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/19/92 SDC 11/12

oncentrated Extract Volume: 5000 (uL) Date Analyzed: 12/22/92

njection Volume: 1.00 (uL) Dilution Factor: 1.00

PC Cleanup: (Y/N) Y pH: 9.6 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-36-3	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	68	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

NV RB 3/3/93

NV 5/19/93

FORM I PEST

9613492.8489

000016
EPA SAMPLE NO.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

B07HK2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11047 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211047-02B

Sample wt/vol: 30.0 (g/mL) G Lab File ID:

% Moisture: 2 decanted: (Y/N) N Date Received: 11/17/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/19/92 SD=11/1

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 12/22/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.6 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	68	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

NV
RB
3/3/93

NV
PBL
5/19/

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HK1

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-133SAS No.: SDG No.: B07HK1

Matrix (soil/water): SOIL Lab Sample ID: 11253-01S

Level (low/med): LOW Date Received: 11/18/92

% Solids: 93.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6330			P
7440-36-0	Antimony	3.2	U	N	P
7440-38-2	Arsenic	1.4	B		F
7440-39-3	Barium	64.5			P
7440-41-7	Beryllium	0.23	B		P
7440-43-9	Cadmium	0.19	U		P
7440-70-2	Calcium	3890			P
7440-47-3	Chromium	17.2			P
7440-48-4	Cobalt	5.8	B		P
7440-50-8	Copper	37.8		N*	P
7439-89-6	Iron	11600			P
7439-92-1	Lead	2.6			F
7439-95-4	Magnesium	3760			P
7439-96-5	Manganese	249			P
7439-97-6	Mercury	0.13			CV
7440-02-0	Nickel	9.1			P
7440-09-7	Potassium	1180			P
7782-49-2	Selenium	0.76	U		F
7440-22-4	Silver	0.86	B		P
7440-23-5	Sodium	387	B		P
7440-28-0	Thallium	0.74	U	W	F
7440-62-2	Vanadium	25.8			P
7440-66-6	Zinc	39.0		E	P
	Cyanide	0.52	U	N	CA

NV 3/4/93

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

002

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HK2

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-133SAS No.: SDG No.: B07HK1

Matrix (soil/water): SOIL Lab Sample ID: 11253-02S

Level (low/med): LOW Date Received: 11/18/92

% Solids: 91.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5680			P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	1.4	B		F
7440-39-3	Barium	122			P
7440-41-7	Beryllium	0.58	B		P
7440-43-9	Cadmium	0.20	U		P
7440-70-2	Calcium	3490			P
7440-47-3	Chromium	14.9			P
7440-48-4	Cobalt	6.1	B		P
7440-50-8	Copper	30.7		N*	P
7439-89-6	Iron	12700			P
7439-92-1	Lead	3.0			F
7439-95-4	Magnesium	3810			P
7439-96-5	Manganese	284			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	10.1			P
7440-09-7	Potassium	1220			P
7782-49-2	Selenium	0.79	U		F
7440-22-4	Silver	1.5	B		P
7440-23-5	Sodium	337	B		P
7440-28-0	Thallium	0.77	U	W	F
7440-62-2	Vanadium	23.3			P
7440-66-6	Zinc	35.5		E	P
	Cyanide	0.53	U	N	CA

NV 3/4/93

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

PBD 5/19/

Comments:
STONES

003

TMA Inc. REPORT Work Order # A2-11-047

Received: 11/17/92 Results by Sample

SAMPLE ID B07WK1 FRACTION 01E TEST CODE WCCLPS NAME Anions in Solids - WW232

Date & Time Collected 11/12/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.8	mg/Kg	0.2
pH	9045	9.6	pH	.1
Sulfate	300.0	14	mg/Kg	2.

FORM I

NV 5-93

PBD 5/19/93

TMA Inc. REPORT Work Order # A2-11-047

Received: 11/17/92

Results by Sample

SAMPLE ID B07BK2 FRACTION 02E TEST CODE VCCLPS NAME Anions in Solids - VM232

Date & Time Collected 11/12/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	1.0	mg/Kg	0.2
pH	9045	9.6	pH	.1
Sulfate	300.0	27	mg/Kg	2.

FORM I

NV 3-5-93SC

PBJ 3/19/93

9613492.8494

000002

 Skinner&Sherman REPORT Work Order # S2-11-254

Received: 11/18/92 Results by Sample

SAMPLE ID B07HK1 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 <2.45 U
mg N/kg

SAMPLE ID B07HK2 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 <2.43 U
mg N/kg

SAMPLE ID B07HK2D SAMPLE # 02 FRACTIONS: B
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 <2.44
mg N/kg

SAMPLE ID B07HK2S SAMPLE # 02 FRACTIONS: C
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 20.8
mg N/kg

SAMPLE ID LCSS SAMPLE # 03 FRACTIONS: A
Date & Time Collected not specified Category SOIL

NO3NO2 1.94
mg N/L

NV 3-5-93 SR

PJD 5/19/93

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

TMA
hermo Analytical Inc.
Skinner & Sherman Laboratories Inc. 300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-LAB TEST

9613492.8495 X0 20691 WC

000005

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ8

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21120R14

Level: (low/med) LOW Date Received: 11/13/92 SD= 11/9/9

% Moisture: not dec. 7 Date Analyzed: 11/20/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	1	J
67-64-1	Acetone	14	~~B~~U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

RB 3/3/93 b/c Cor

5/19/91

9613492.8496

000006
EPA SAMPLE NO.

B07HJ8

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21120R14

Level: (low/med) LOW Date Received: 11/13/92

% Moisture: not dec. 7 Date Analyzed: 11/20/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

RB
3/3/93

9613492.8497

000007
EPA SAMPLE NO.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

B07HJ9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21123R05

Level: (low/med) LOW Date Received: 11/16/92 SD = 11/..

% Moisture: not dec. 5 Date Analyzed: 11/23/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	3	J
67-64-1	Acetone	40	~~B~~ U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	2	J
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	4	J
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	5	J
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

RB 2/2/93

BD 5/19/9

9613492.8498

000008

EPA SAMPLE NO.

B07HJ9

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21123R05

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: not dec. 5 Date Analyzed: 11/23/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

RB
3/3/93

9613492.8499

000009

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HK0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21123R04

Level: (low/med) LOW Date Received: 11/16/92 SD = 11/12/9

% Moisture: not dec. 6 Date Analyzed: 11/23/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
74-87-3	Chloromethane	11	U	
74-83-9	Bromomethane	11	U	
75-01-4	Vinyl Chloride	11	U	
75-00-3	Chloroethane	11	U	
75-09-2	Methylene Chloride	2	J	blk w
67-64-1	Acetone	26	BU	RB
75-15-0	Carbon Disulfide	11	U	3/3/9
75-35-4	1,1-Dichloroethene	11	U	
75-34-3	1,1-Dichloroethane	11	U	
540-59-0	1,2-Dichloroethene (total)	11	U	
67-66-3	Chloroform	11	U	
107-06-2	1,2-Dichloroethane	11	U	
78-93-3	2-Butanone	11	U	
71-55-6	1,1,1-Trichloroethane	11	U	
56-23-5	Carbon Tetrachloride	11	U	
75-27-4	Bromodichloromethane	11	U	
78-87-5	1,2-Dichloropropane	11	U	
10061-01-5	cis-1,3-Dichloropropene	11	U	
79-01-6	Trichloroethene	11	U	
124-48-1	Dibromochloromethane	11	U	
79-00-5	1,1,2-Trichloroethane	11	U	
71-43-2	Benzene	11	U	
10061-02-6	trans-1,3-Dichloropropene	11	U	
75-25-2	Bromoform	11	U	
108-10-1	4-Methyl-2-Pentanone	11	U	
591-78-6	2-Hexanone	11	U	
127-18-4	Tetrachloroethene	3	J	
79-34-5	1,1,2,2-Tetrachloroethane	11	U	
108-88-3	Toluene	11	U	
108-90-7	Chlorobenzene	11	U	
100-41-4	Ethylbenzene	11	U	
100-42-5	Styrene	11	U	
1330-20-7	Xylene (total)	11	U	

5/91

9613492.8500

000010

EPA SAMPLE NO.

B07HK0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21123R04

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: not dec. 6 Date Analyzed: 11/23/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613492.8501

000011

EPA SAMPLE NO.

B07HJ8

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-03B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21130S09

Level: (low/med) LOW Date Received: 11/13/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)Ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-Propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)Methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-Methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	850	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	850	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
99-09-2	3-Nitroaniline	850	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	850	U

RB 3/4/

RB 5/19/9

9613492.8502

000012

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ8

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-03B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21130S09

Level: (low/med) LOW Date Received: 11/13/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	850	U J
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	850	U
534-52-1	4,6-Dinitro-2-methylphenol	850	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	850	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-Butylphthalate	56	J
206-44-0	Fluoranthene	350	U J
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	350	U
56-55-3	Benzo(a)Anthracene	350	U
117-81-7	bis(2-Ethylhexyl)Phthalate	350	U
218-01-9	Chrysene	350	U
117-84-0	Di-n-Octyl Phthalate	350	U
205-99-2	Benzo(b)Fluoranthene	350	U
207-08-9	Benzo(k)Fluoranthene	350	U
50-32-8	Benzo(a)Pyrene	350	U
193-39-5	Indeno(1,2,3-cd)Pyrene	350	U
53-70-3	Dibenz(a,h)Anthracene	350	U
191-24-2	Benzo(g,h,i)Perylene	350	U

RB 3/11

(1) - Cannot be separated from Diphenylamine

9613492.8503

000013

EPA SAMPLE NO.

B07HJ8

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-03B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21130S09

Level: (low/med) LOW Date Received: 11/13/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

Number TICs found: 12

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.58	110000	~~BJ~~ UJ
2.	UNKNOWN HYDROCARBON	5.93	210	~~BJ~~
3.	UNKNOWN HYDROCARBON	6.45	2800	~~BJ~~
4.	UNKNOWN HYDROCARBON	6.68	180	~~BJ~~
5.	UNKNOWN KETONE	6.90	350	~~BJ~~
6.	UNKNOWN ALKANE	7.07	210	~~BJ~~
7.	UNKNOWN ALKANE	8.18	110	~~BJ~~
8.	PROPANOIC ACID ISOMER	16.63	71	J
9.	UNKNOWN COMPOUND	20.80	180	J
10.	HEXANEDIOIC ACID ISOMER	24.33	71	J
11.	UNKNOWN ALKANE	28.08	140	J
12.	UNKNOWN ALKANE	30.03	110	J

R1
31

9613492.8504

000014

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HJ9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21130S05

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	830	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	830	U

RB 3/4/5

5/9/

9613492.8505

000015

EPA SAMPLE NO.

B07HJ9

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21130S05

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	830	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-methylphenol	830	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	830	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	340	U
117-81-7	bis(2-Ethylhexyl)Phthalate	340	U
218-01-9	Chrysene	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	340	U
207-08-9	Benzo(k)Fluoranthene	340	U
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

MB 3/4/9

(1) - Cannot be separated from Diphenylamine

9613492.8506

000016
EPA SAMPLE NO.

B07HJ9

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21130S05

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.47	39000	J
2.	UNKNOWN HYDROCARBON	5.70	72000	~~BJ~~ UJ
3.	UNKNOWN HYDROCARBON	6.02	240	~~BJ~~ J
4.	UNKNOWN HYDROCARBON	6.53	3400	~~BJ~~ J
5.	UNKNOWN HYDROCARBON	6.70	340	J
6.	UNKNOWN KETONE	6.95	520	~~BJ~~ UJ
7.	UNKNOWN ALKANE	7.07	140	~~BJ~~ UJ
8.	UNKNOWN KETONE	8.58	69	J

AB
3/4/93

9613492.8507

000017

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HK0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-02B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21130S08

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: 6 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)Ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-Propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)Methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-Methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	840	U

MB 3/4/93

BD 5/19/93

9613492.8508

000018
EPA SAMPLE NO.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07HK0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-02B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21130S08

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: 6 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	840	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	130	J
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	840	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-Butylphthalate	350	U
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	350	U
56-55-3	Benzo(a)Anthracene	350	U
117-81-7	bis(2-Ethylhexyl)Phthalate	350	U
218-01-9	Chrysene	350	U
117-84-0	Di-n-Octyl Phthalate	350	U
205-99-2	Benzo(b)Fluoranthene	350	U
207-08-9	Benzo(k)Fluoranthene	350	U
50-32-8	Benzo(a)Pyrene	350	U
193-39-5	Indeno(1,2,3-cd)Pyrene	350	U
53-70-3	Dibenz(a,h)Anthracene	350	U
191-24-2	Benzo(g,h,i)Perylene	350	U

(1) - Cannot be separated from Diphenylamine

NB 3/4/

9613492.8509

000019
EPA SAMPLE NO.

B07HK0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-02B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21130S08

Level: (low/med) LOW Date Received: 11/16/92

% Moisture: 6 decanted: (Y/N) N Date Extracted: 11/19/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/30/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.55	94000	~~BJ~~ U
2.	UNKNOWN HYDROCARBON	5.92	180	~~BJ~~
3.	UNKNOWN HYDROCARBON	6.43	2600	~~BJ~~
4.	UNKNOWN KETONE	6.90	180	~~BJ~~
5.	UNKNOWN ALKANE	7.05	100	~~BJ~~
6.	HEXANEDIOIC ACID ISOMER	24.33	70	J
7.	UNKNOWN HYDROCARBON	27.42	70	J

NA
3/4/93

9613492.8510

000020

EPA SAMPLE NO.

B07HJ8

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A211041-03B

ample wt/vol: 30.7 (g/mL) G Lab File ID:

Moisture: 7 decanted: (Y/N) N Date Received: 11/13/92

xtraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/19/92

oncentrated Extract Volume: 5000 (uL) Date Analyzed: 12/19/92

njection Volume: 1.00 (uL) Dilution Factor: 1.00

PC Cleanup: (Y/N) Y pH: 9.2 Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	1.8	U J
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.5	U
7421-36-3	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

RB 3/4/93

5/19/9

9613492.8511

000021
EPA SAMPLE NO.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

B07HJ9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-01D

Sample wt/vol: 30.3 (g/mL) G Lab File ID:

% Moisture: 5 decanted: (Y/N) N Date Received: 11/16/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/19/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 12/19/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

GD 3/4/93

5/19/93

9613492.8512

000022

EPA SAMPLE NO.

B07HK0

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11041 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211041-02B

Sample wt/vol: 30.0 (g/mL) G Lab File ID:

% Moisture: 6 decanted: (Y/N) N Date Received: 11/16/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/19/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 12/19/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.5 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	UJ
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	UJ
58-89-9	gamma-BHC (Lindane)	1.8	UJ
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.5	U
7421-36-3	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	71	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

RB 3/4/92

5/19/93

9613492.8513

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HJ8

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-114$AS No.: SDG No.: B07HJ8

Matrix (soil/water): SOIL Lab Sample ID: 11183-01S

Level (low/med): LOW Date Received: 11/14/92

% Solids: 91.4

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

4/2/93 JMD

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	7430			P	
7440-36-0	Antimony	3.7	U	~~N~~ UJ	P-	Lab Blank/Matrix Spike
7440-38-2	Arsenic	2.5			F	
7440-39-3	Barium	63.0			P	
7440-41-7	Beryllium	0.68	B		P	
7440-43-9	Cadmium	0.22	U	U	P-	Lab Blank
7440-70-2	Calcium	5850			P	
7440-47-3	Chromium	11.2			P	
7440-48-4	Cobalt	10.1	B		P	
7440-50-8	Copper	18.6			P	
7439-89-6	Iron	21000			P	
7439-92-1	Lead	5.1		S	F	
7439-95-4	Magnesium	5050			P	
7439-96-5	Manganese	309			P	
7439-97-6	Mercury	0.05	U		CV	
7440-02-0	Nickel	11.3			P	
7440-09-7	Potassium	1550			P	
7782-49-2	Selenium	0.78	U	~~N~~ J	F-	Matrix Spike/GFAA S
7440-22-4	Silver	0.55	U	U	P-	Lab Blank
7440-23-5	Sodium	247	B		P	
7440-28-0	Thallium	0.28	U		F	
7440-62-2	Vanadium	42.0			P	
7440-66-6	Zinc	44.5		EJ	P-	Icp Serial Dilution
_____	Cyanide	0.54	U		CA	

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

5/19/93

9613492.8514

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B07HJ9

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-114$AS No.: SDG No.: B07HJ8

Matrix (soil/water): SOIL Lab Sample ID: 11183-02S

Level (low/med): LOW Date Received: 11/17/92

% Solids: 93.8

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

4/2/93 gn

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	5900			P	
7440-36-0	Antimony	3.5	U	~~A~~ UJ	P-	Lab Blank/Matrix Sp
7440-38-2	Arsenic	2.1			F	
7440-39-3	Barium	58.2			P	
7440-41-7	Beryllium	0.37	B		P	
7440-43-9	Cadmium	0.60	~~B~~	U	P-	Lab Blank
7440-70-2	Calcium	3030			P	
7440-47-3	Chromium	153			P	
7440-48-4	Cobalt	7.8	B		P	
7440-50-8	Copper	44.9			P	
7439-89-6	Iron	17000			P	
7439-92-1	Lead	4.1			F	
7439-95-4	Magnesium	4290			P	
7439-96-5	Manganese	229			P	
7439-97-6	Mercury	3.9			CV	
7440-02-0	Nickel	14.0			P	
7440-09-7	Potassium	742	B		P	
7782-49-2	Selenium	0.72	U	~~W~~J.	F-	Matrix Spike/GFAA
7440-22-4	Silver	0.52	U	U	P-	Lab Blank
7440-23-5	Sodium	254	B		P	
7440-28-0	Thallium	0.26	U	~~W~~J.	F-	GFAA Spike
7440-62-2	Vanadium	39.4			P	
7440-66-6	Zinc	143		~~E~~J.	P-	Icp Serial Dilution
	Cyanide	0.51	U		CA	

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

5/19/93

9613492.8515

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HK0

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-114$AS No.: SDG No.: B07HJ8

Matrix (soil/water): SOIL Lab Sample ID: 11183-03S

Level (low/med): LOW Date Received: 11/17/92

% Solids: 90.1

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

4/2/93 fm

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	6450			P	
7440-36-0	Antimony	3.6	U	~~N~~ UJ	P-	Lab Blank/Matrix Sp
7440-38-2	Arsenic	1.5	B		F	
7440-39-3	Barium	74.7			P	
7440-41-7	Beryllium	0.44	B		P	
7440-43-9	Cadmium	0.22	U	U	P-	Lab Blank
7440-70-2	Calcium	3410			P	
7440-47-3	Chromium	21.7			P	
7440-48-4	Cobalt	7.5	B		P	
7440-50-8	Copper	16.8		U	P-	Lab Blank
7439-89-6	Iron	13900			P	
7439-92-1	Lead	3.3		S	F	
7439-95-4	Magnesium	4350			P	
7439-96-5	Manganese	297			P	
7439-97-6	Mercury	0.05	U		CV	
7440-02-0	Nickel	10.7			P	
7440-09-7	Potassium	1240			P	
7782-49-2	Selenium	0.80	U	~~N~~ J	F-	Matrix Spike
7440-22-4	Silver	0.54	U	U	P-	Lab Blank
7440-23-5	Sodium	296	B		P	
7440-28-0	Thallium	0.29	U		F	
7440-62-2	Vanadium	26.3			P	
7440-66-6	Zinc	63.6		~~E~~ J	P-	Icp Serial Dilution
	Cyanide	0.52	U		CA	

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

5/19/92

9613492.8516

000002

Received: 11/14/92 Results by Sample

SAMPLE ID B07HJ8 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 11/09/92 Category SOIL

NO3NO2 <2.50 UJ. Holding Time
mg N/kg

4/2/93 JM

SAMPLE ID B07HJ9 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 4.42 J. Holding Time
mg N/kg

SAMPLE ID B07HK0 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 <2.49 U.
mg N/kg

SAMPLE ID B07HK0 DUPL SAMPLE # 03 FRACTIONS: B
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 <2.49
mg N/kg

SAMPLE ID B07HK0 SPIKE SAMPLE # 03 FRACTIONS: C
Date & Time Collected 11/12/92 Category SOIL

NO3NO2 20.0
mg N/kg

SAMPLE ID LCSS SAMPLE # 04 FRACTIONS: A
Date & Time Collected not specified Category SOIL

NO3NO2 1.94
mg N/L

BD 5/14/93

TMA Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is sa
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thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

Skinner & Sherman Laboratories Inc. 300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-720
1-800-4 LAB TEST FAX (617) 890-3883

9613492.8517

000015

TMA Inc. REPORT Work Order # A2-11-041

Received: 11/13/92 Results by Sample

SAMPLE ID B07WJ8 FRACTION 03C TEST CODE WCCLPS NAME Anions in Solids - VW232

Date & Time Collected 11/09/92 Category

4/2/93 JW

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Fluoride	300.0	0.5	mg/Kg	0.2	J
Sulfate	300.0	5	mg/Kg	2.	J

FORM I

5/18/93

9613492.8518

TNA Inc. REPORT Work Order # A2-11-041

Received: 11/13/92 Results by Sample

SAMPLE ID B07WJ9 FRACTION 01G TEST CODE WCCLPS NAME Anions in Solids - WW232

Date & Time Collected 11/11/92 Category

4/2/93 fin

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Fluoride	300.0	0.7	mg/Kg	0.2	J
Sulfate	300.0	14	mg/Kg	2.	J

FORM I

PD 5/19/93

9613492.8519

000014

TMA Inc. REPORT Work Order # A2-11-041

Received: 11/13/92 Results by Sample

SAMPLE ID B07MK0 FRACTION 02E TEST CODE VCCLPS NAME Anions in Solids - VM232

Date & Time Collected 11/12/92 Category

4/2/93 gm

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Fluoride	300.0	0.5	mg/Kg	0.2	J.
Sulfate	300.0	12	mg/Kg	2.	J.

FORM I

PBJ 5/19/93

9613492.8520

TMA NORCAL

REPORTING GROUP 7127

N211145-08

B07HK0

REPLICATE

SDG	7127			Client	Westinghouse Hanford
Contact	Dinkar Kharkar			Contract	MBH-SVV-069262
	REPLICATE		ORIGINAL		
Lab sample id	N211145-08	Lab sample id	N211145-02	Client sample id	B07HK0
Dept sample id	7127-008	Dept sample id	7127-002	Matrix	SOIL
		Received	11/16/92	Collected	11/12/92
% moisture	3.6	% moisture	3.6	Chain of custody id	EFL-1051

PARAMETER	REPLICATE pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST	ORIGINAL pCi/G	2σ ERR (COUNT)	MDA pCi/G	QUALI-FIERS	RPD %	3σ TOT	PRO LIMI
Gross Alpha	8.5	6.4	7	10	J	80A	1.2	4.1	6	U	151	241	
Gross Beta	24	4.8	6	10		80B	57	6.3	6		81	45	
Uranium 233/234	0.17	0.10	0.1	0.3	J	U	0.61	0.20	0.1		113	87	
Uranium 235	0	0.041	0.2	0.3	U	U	0.072	0.087	0.1	U	-		
Uranium 238	0.27	0.14	0.1	0.3	J	U	0.43	0.15	0.09		46	89	
Plutonium 238	-0.023	0.062	0.1	0.05	U	PU	-0.007	0.028	0.08	U	-		
Plutonium 239/240	-0.008	0.046	0.1	0.05	U	PU	0.077	0.043	0.05		200	223	
Americium 241	0.031	0.028	0.04	0.05	U	AM	0.080	0.029	0.02		88	110	
Strontium 90	-0.74	4.2	1	1	U	Y	3.5	2.0	1		200	330	
Carbon 14	0.85	4.4	5	50	U	C	-0.74	4.5	5	U	-		
GAMMA SCAN ANALYTES													
Potassium 40	13	3.1				GAM	14	1.4			7	50	
Iron 59	U		4	0.05	U	GAM	U		1	U	-		
Chromium 51	U		20		U	GAM	U		8	U	-		
Cobalt 60	21	0.92		0.05		GAM	22	0.45			5	33	
Zinc 65	U		2		U	GAM	U		0.9	U	-		
Ruthenium 106	U		5		U	GAM	U		2	U	-		
Cesium 134	U		0.7		U	GAM	U		0.3	U	-		
Cesium 137	17	0.92		0.05		GAM	17	0.38			0	34	
Europium 152	23	2.0		0.1		GAM	23	0.73			0	35	
Europium 154	4.7	1.2		0.1		GAM	3.2	0.52			38	59	
Radium 226	U		0.9		U	GAM	0.48	0.25			61	206	
Thorium 228	U		0.8		U	GAM	0.82	0.14			2	154	
Thorium 232	U		3		U	GAM	0.82	0.60			114	243	

NV

RB
4-3-93

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-REP
Version	2.23
Report date	03/02/93

9613492.8521

N211145-01

TMA NORCAL
REPORTING GROUP 7127

DATA SHEET

B07HJ9

SDG	7127	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211145-01	Client sample id	B07HJ9
Dept sample id	7127-001	Matrix	SOIL
Received	11/16/92	Collected	11/11/92
% moisture	4.1	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	78	16	5	10		80A
Gross Beta	Beta	2200	31	6	10	B	80B
Uranium 233/234		0.81	0.24	0.1	0.3		U
Uranium 235	15117-96-1	0.058	0.078	0.1	0.3	U	U
Uranium 238	7440-61-1	0.46	0.17	0.1	0.3		U
Plutonium 238	13981-16-3	2.1	0.50	0.06	0.05		PU
Plutonium 239/240		44	9.7	0.05	0.05		PU
Americium 241	14596-10-2	13	0.87	0.02	0.05		AM
Strontium 90	10098-97-2	15	12	0.9	1		Y
Carbon 14	14762-75-5	11	3.9	4	50	J	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		40		U	GAM
Iron 59		U		50	0.05	U	GAM
Chromium 51	14392-02-0	U		300		U	GAM
Cobalt 60	10198-40-0	370	9.5		0.05		GAM
Zinc 65	17982-39-3	U		40		U	GAM
Ruthenium 106	13967-48-1	U		70		U	GAM
Cesium 134	17967-70-9	U		9		U	GAM
Cesium 137	10045-97-3	1900	18		0.05		GAM
Europium 152	14683-23-9	1600	27		0.1		GAM
Europium 154	15585-10-1	250	19		0.1		GAM
Radium 226	13982-67-7	U		10		U	GAM
Thorium 228	14274-82-9	U		9		U	GAM
Thorium 232	7440-29-1	U		30		U	GAM
Europium 155	14391-16-3	15	10				GAM

NV

RB
4-3-93

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	03/02/93

9613492.8522

N211145-02

TMA NORCAL
REPORTING GROUP 7127

DATA SHEET

B07HK0

SDG	7127	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211145-02	Client sample id	B07HK0
Dept sample id	7127-002	Matrix	SOIL
Received	11/16/92	Collected	11/12/92
% moisture	3.6	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	1.2	4.1	6	10	U	80A
Gross Beta	Beta	57	6.3	6	10		80B
Uranium 233/234		0.61	0.20	0.1	0.3		U
Uranium 235	15117-96-1	0.072	0.087	0.1	0.3	U	U
Uranium 238	7440-61-1	0.43	0.15	0.09	0.3		U
Plutonium 238	13981-16-3	-0.007	0.028	0.08	0.05	U	PU
Plutonium 239/240		0.077	0.043	0.05	0.05		PU
Americium 241	14596-10-2	0.080	0.029	0.02	0.05		AM
Strontium 90	10098-97-2	3.5	2.0	1	1		Y
Carbon 14	14762-75-5	-0.74	4.5	5	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	14	1.4				GAM
Iron 59		U		1	0.05	U	GAM
Chromium 51	14392-02-0	U		8		U	GAM
Cobalt 60	10198-40-0	22	0.45		0.05		GAM
Zinc 65	17982-39-3	U		0.9		U	GAM
Ruthenium 106	13967-48-1	U		2		U	GAM
Cesium 134	17967-70-9	U		0.3		U	GAM
Cesium 137	10045-97-3	17	0.38		0.05		GAM
Europium 152	14683-23-9	23	0.73		0.1		GAM
Europium 154	15585-10-1	3.2	0.52		0.1		GAM
Radium 226	13982-67-7	0.48	0.25				GAM
Thorium 228	14274-82-9	0.82	0.14				GAM
Thorium 232	7440-29-1	0.82	0.60				GAM

NV

RB
4-3-93

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	03/02/93

9613492.8523

N211145-03

TMA NORCAL
REPORTING GROUP 7127

DATA SHEET

B07HK1

SDG	7127	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211145-03	Client sample id	B07HK1
Dept sample id	7127-003	Matrix	SOIL
Received	11/17/92	Collected	11/12/92
% moisture	2.2	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	5.1	4.5	5	10	J	80A
Gross Beta	Beta	22	4.3	5	10		80B
Uranium 233/234		0.35	0.14	0.1	0.3		U
Uranium 235	15117-96-1	0.016	0.033	0.1	0.3	U	U
Uranium 238	7440-61-1	0.56	0.17	0.1	0.3		U
Plutonium 238	13981-16-3	-0.004	0.025	0.05	0.05	U	PU
Plutonium 239/240		0	0.008	0.03	0.05	U	PU
Americium 241	14596-10-2	0	0.013	0.02	0.05	U	AM
Strontium 90	10098-97-2	2.1	0.39	1	1		Y
Carbon 14	14762-75-5	-2.0	4.2	5	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	13	1.1				GAM
Iron 59		U		0.5	0.05	U	GAM
Chromium 51	14392-02-0	U		2		U	GAM
Cobalt 60	10198-40-0	1.6	0.13		0.05		GAM
Zinc 65	17982-39-3	U		0.2		U	GAM
Ruthenium 106	13967-48-1	U		0.6		U	GAM
Cesium 134	17967-70-9	U		0.08		U	GAM
Cesium 137	10045-97-3	0.14	0.059		0.05		GAM
Europium 152	14683-23-9	0.40	0.092		0.1		GAM
Europium 154	15585-10-1	U		0.2	0.1	U	GAM
Radium 226	13982-67-7	0.50	0.11				GAM
Thorium 228	14274-82-9	0.69	0.062				GAM
Thorium 232	7440-29-1	0.58	0.25				GAM

NV

RB
4-3-93

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	03/02/93

9613492.8524

N211145-04

TMA NORCAL
REPORTING GROUP 7127

DATA SHEET

B07HK2

SDG	7127	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211145-04	Client sample id	B07HK2
Dept sample id	7127-004	Matrix	SOIL
Received	11/17/92	Collected	11/12/92
% moisture	2.0	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	4.9	4.3	5	10	U	80A
Gross Beta	Beta	17	4.1	5	10		80B
Uranium 233/234		0.48	0.16	0.09	0.3		U
Uranium 235	15117-96-1	0	0.027	0.1	0.3	U	U
Uranium 238	7440-61-1	0.34	0.12	0.09	0.3		U
Plutonium 238	13981-16-3	0.036	0.041	0.06	0.05	U	PU
Plutonium 239/240		-0.005	0.010	0.04	0.05	U	PU
Americium 241	14596-10-2	0.014	0.023	0.04	0.05	U	AM
Strontium 90	10098-97-2	2.5	0.39	1	1		Y
Carbon 14	14762-75-5	-4.4	3.7	4	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	12	0.96				GAM
Iron 59		U		0.3	0.05	U	GAM
Chromium 51	14392-02-0	U		2		U	GAM
Cobalt 60	10198-40-0	0.077	0.054		0.05		GAM
Zinc 65	17982-39-3	U		0.1		U	GAM
Ruthenium 106	13967-48-1	U		0.4		U	GAM
Cesium 134	17967-70-9	U		0.06		U	GAM
Cesium 137	10045-97-3	U		0.07	0.05	U	GAM
Europium 152	14683-23-9	U		0.1	0.1	U	GAM
Europium 154	15585-10-1	U		0.2	0.1	U	GAM
Radium 226	13982-67-7	0.44	0.092				GAM
Thorium 228	14274-82-9	0.85	0.097				GAM
Thorium 232	7440-29-1	0.48	0.20				GAM

NV
RB 4-3-93

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	03/02/93

9613492.8525

N211145-05

TMA NORCAL
REPORTING GROUP 7127

DATA SHEET

B07HK3

SDG	7127	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N211145-05	Client sample id	B07HK3
Dept sample id	7127-005	Matrix	SOIL
Received	11/19/92	Collected	11/17/92
% moisture	6.4	Chain of custody id	EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	5.9	5.2	6	10	U	80A
Gross Beta	Beta	15	4.0	5	10		80B
Uranium 233/234		0.40	0.16	0.1	0.3		U
Uranium 235	15117-96-1	0.036	0.037	0.1	0.3	U	U
Uranium 238	7440-61-1	0.63	0.19	0.1	0.3		U
Plutonium 238	13981-16-3	-0.016	0.048	0.1	0.05	U	PU
Plutonium 239/240		0.008	0.032	0.06	0.05	U	PU
Americium 241	14596-10-2	0.015	0.030	0.05	0.05	U	AM
Strontium 90	10098-97-2	0.010	2.2	1	1	U	Y
Carbon 14	14762-75-5	1.5	4.7	5	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	12	1.1				GAM
Iron 59		U		0.3	0.05	U	GAM
Chromium 51	14392-02-0	U		2		U	GAM
Cobalt 60	10198-40-0	U		0.05	0.05	U	GAM
Zinc 65	17982-39-3	U		0.2		U	GAM
Ruthenium 106	13967-48-1	U		0.4		U	GAM
Cesium 134	17967-70-9	0.052	0.033				GAM
Cesium 137	10045-97-3	0.067	0.043		0.05		GAM
Europium 152	14683-23-9	U		0.1	0.1	U	GAM
Europium 154	15585-10-1	U		0.07	0.1	U	GAM
Radium 226	13982-67-7	0.58	0.095				GAM
Thorium 228	14274-82-9	0.78	0.060				GAM
Thorium 232	7440-29-1	0.85	0.19				GAM

NV
RB 4-3-93

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.23
Report date	03/02/93

9613492.8526

X02267

000005

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HK3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11058 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211058-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21123R06

Level: (low/med) LOW Date Received: 11/19/92

% Moisture: not dec. 7 Date Analyzed: 11/23/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	16	BJ
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

NV

RB 3/1/93

BJ 5/19/93

9613492.8527

000006

EPA SAMPLE NO.

B07HK3

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11058 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211058-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21123R06

Level: (low/med) LOW Date Received: 11/19/92

% Moisture: not dec. 7 Date Analyzed: 11/23/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

NV
RB 3/1/93

9613492.8528

000007
EPA SAMPLE NO.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07HK3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11058 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211058-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21204N03

Level: (low/med) LOW Date Received: 11/19/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 11/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 12/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)Ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-Propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)Methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-Methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	840	U

NV 3/1/94 RR

5/19/94

9613492.8529

000008
EPA SAMPLE NO.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07HK3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11058 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211058-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21204N03

Level: (low/med) LOW Date Received: 11/19/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 11/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 12/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	840	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	840	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-Butylphthalate	41	BJ
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	350	U
56-55-3	Benzo(a)Anthracene	350	U
117-81-7	bis(2-Ethylhexyl)Phthalate	350	U
218-01-9	Chrysene	350	U
117-84-0	Di-n-Octyl Phthalate	350	U
205-99-2	Benzo(b)Fluoranthene	350	U
207-08-9	Benzo(k)Fluoranthene	350	U
50-32-8	Benzo(a)Pyrene	350	U
193-39-5	Indeno(1,2,3-cd)Pyrene	350	U
53-70-3	Dibenz(a,h)Anthracene	350	U
191-24-2	Benzo(g,h,i)Perylene	350	U

(1) - Cannot be separated from Diphenylamine

N1

RB 3/4/93

9613492.0530

000009

EPA SAMPLE NO.

B07HK3

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11058 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211058-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 21204N03

Level: (low/med) LOW Date Received: 11/19/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 11/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 12/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

Number TICs found: 17

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	3.63	3100	J
2.	UNKNOWN HYDROCARBON	3.90	35000	BJ
3.	UNKNOWN KETONE	4.32	140	J
4.	UNKNOWN KETONE	4.85	280	BJ
5.	UNKNOWN ALKENE	5.43	1300	BJ
6.	UNKNOWN KETONE	5.98	1000	BJ
7.	UNKNOWN HYDROCARBON	6.63	140	J
8.	UNKNOWN AMINE	7.32	22000	J
9.	UNKNOWN HYDROCARBON	7.63	35000	J
10.	UNKNOWN HYDROCARBON	8.00	350	J
11.	UNKNOWN ALKANE	8.33	70	J
12.	UNKNOWN HYDROCARBON	8.55	2300	BJ
13.	UNKNOWN KETONE	8.75	670	BJ
14.	UNKNOWN HYDROCARBON	9.40	70	J
15.	UNKNOWN ALKANE	9.47	180	BJ
16.	SUBSTITUTED BENZENE	9.97	110	J
17.	UNKNOWN KETONE	14.72	180	BJ

NV MB 3/1/93

9613492.8531

000010
EPA SAMPLE NO.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

B07HK3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 11058 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A211058-01D

Sample wt/vol: 30.7 (g/mL) G Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N Date Received: 11/19/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/23/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 12/22/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.8 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.5	U
7421-36-3	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

NV
AB 3/1/93

5/19/

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HK3

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-11-154SAS No.: SDG No.: B07HK3

Matrix (soil/water): SOIL Lab Sample ID: 11273-01S

Level (low/med): LOW Date Received: 11/20/92

% Solids: 90.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8030			P
7440-36-0	Antimony	2.9	U	N	P
7440-38-2	Arsenic	1.9	B		F
7440-39-3	Barium	78.6			P
7440-41-7	Beryllium	0.44	B		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	3470			P
7440-47-3	Chromium	9.0			P
7440-48-4	Cobalt	10.7			P
7440-50-8	Copper	12.7		*	P
7439-89-6	Iron	20100			P
7439-92-1	Lead	5.4			F
7439-95-4	Magnesium	3580			P
7439-96-5	Manganese	366			P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	8.7			P
7440-09-7	Potassium	1470			P
7782-49-2	Selenium	0.82	U		F
7440-22-4	Silver	1.1	B		P
7440-23-5	Sodium	175	B		P
7440-28-0	Thallium	0.27	U	W	F
7440-62-2	Vanadium	44.9			P
7440-66-6	Zinc	39.7			P
	Cyanide	0.55	U		CA

NV 3/1/93 SL

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

BBJ 5/19/93

002

FORM I - IN ILM03.0

9613492.8533

000002

 Skinner&Sherman REPORT Work Order # S2-11-274

Received: 11/20/92 Results by Sample

SAMPLE ID B07HK3 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 11/17/92 Category SOIL

NO3NO2 <2.44 U
mg N/kg

SAMPLE ID B07HK3 DUPL SAMPLE # 01 FRACTIONS: B
Date & Time Collected 11/17/92 Category SOIL

NO3NO2 <2.48
mg N/kg

SAMPLE ID B07HK3 SPIKE SAMPLE # 01 FRACTIONS: C
Date & Time Collected 11/17/92 Category SOIL

NO3NO2 20.5
mg N/kg

SAMPLE ID LCSS SAMPLE # 02 FRACTIONS: A
Date & Time Collected not specified Category SOIL

NO3NO2 1.94
mg N/L

Not validated
4-16-93 SC

NV
PBM
5/19/93

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
900 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-720
1-800-4 LAB TEST FAX (617) 890-3883

TRA Inc. REPORT Work Order # A2-11-058

Received: 11/19/92

Results by Sample

SAMPLE ID B07HK3 FRACTION 01G TEST CODE WCCLPS NAME Anions in Solids - WH232

Date & Time Collected 11/17/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.7	mg/Kg	0.2
Sulfate	300.0	3	mg/Kg	2.

FORM I

Not Validated
4-16-93 SC

NV
PBD
5/19/93