START 9613499.0002

0045492

B07HG1-TMA-33

000002

CASE NARRATIVE

OCT 1996 RECEIVED EDMC

LABORATORY : TMA/ARLI

CASE : 10-051

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : October 16, 1992 & October 19, 1992

1.0 DESCRIPTION OF CASE :

Six 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
B07HG1	A2-10-051-01A	V	SOIL
B07HG1 MS	A2-10-051-01B	V	SOIL
B07HG1 MSD	A2-10-051-01C	V	SOIL
B07HG1	A2-10-051-01D	SV & P	SOIL
B07HG1 MS	A2-10-051-01E	SV	SOIL
B07HG1 MSD	A2-10-051-01F	SV	SOIL
B07HG2	A2-10-051-02A	V	SOIL
B07HG2	A2-10-051-02B	SV & P	SOIL
B07HG2 MS	A2-10-051-02C	P	SOIL
B07HG2 MSD	A2-10-051-02D	P	SOIL
B07HG4	A2-10-051-03A	V	SOIL
B07HG4	A2-10-051-03B	SV & P	SOIL
B07HG6	A2-10-051-04A	V	SOIL
B07HG6	A2-10-051-04B	SV & P	SOIL
B07HG7	A2-10-051-05A	V	SOIL
B07HG7	A2-10-051-05B	SV & P	SOIL
B07HG3	A2-10-051-06A	V	SOIL
B07HG3	A2-10-051-06B	SV & P	SOIL

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

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.

PESTICIDE/PCB ANALYSIS :

SEQUENCE NOTES :

The sequence was started on 11/03/92 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 :

All of the samples were extracted within the CLP SOW holding times with the exception of samples B07HG1, B07HG2, B07HG4 and B07HG6. All of the samples were analyzed within the holding time. The TCX surrogate recoveries were slightly below the advisory QC limit for sample PBLK1028S on the DB-608 column, and for samples B07HG2MS and B07HG6 on the DB-1701 column. Dieldrin spike recoveries for samples B07HG2MS and B07HG2MSD on the DB-1701 column were very high due to an interference peak that co-eluted with Dieldrin. This co-elution resulted in a percent difference (%D) between the two GC columns that exceeded the 25% limit. Therefore, the Dieldrin results from the MS and MSD samples have been "P" qualified. The same interference peak was detected in the unspiked sample B07HG2 only on the DB-1701 column.

All of the other QC 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

9613499.0005

000005

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R03

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: not dec. 1 Date Analyzed: 10/21/92

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	20	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	29	
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

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B07HG1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R03

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: not dec. 1 Date Analyzed: 10/21/92

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.

B07HG2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R06

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: not dec. 3 Date Analyzed: 10/21/92

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	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

1E

EPA SAMPLE NO.

B07HG2

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R06

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: not dec. 3 Date Analyzed: 10/21/92

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.

B07HG3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-06A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R10

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: not dec. 3 Date Analyzed: 10/21/92

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

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000010
EPA SAMPLE NO.

B07HG3

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-06A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R10

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: not dec. 3 Date Analyzed: 10/21/92

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.

B07HG4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R07

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: not dec. 4 Date Analyzed: 10/21/92

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	19	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

EPA SAMPLE NO.

B07HG4

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R07

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: not dec. 4 Date Analyzed: 10/21/92

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

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALCOHOL	6.67	7	J
2.	UNKNOWN HYDROCARBON	29.45	57	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R08

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: not dec. 2 Date Analyzed: 10/21/92

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	20	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

EPA SAMPLE NO.

B07HG6

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R08

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: not dec. 2 Date Analyzed: 10/21/92

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

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALCOHOL	6.67	12	J
2.	UNKNOWN HYDROCARBON	29.45	8	J

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R09

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: not dec. 3 Date Analyzed: 10/21/92

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	18	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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000016

EPA SAMPLE NO.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B07HG7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R09

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: not dec. 3 Date Analyzed: 10/21/92

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

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 21029S11

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 1 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 21029S11

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 1 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

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	36	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

EPA SAMPLE NO.

B07HG1

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 21029S11

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 1 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

Number TICs found: 12

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.87	43000	BJ
2.	UNKNOWN HYDROCARBON	6.07	62000	BJ
3.	UNKNOWN HYDROCARBON	6.32	360	BJ
4.	UNKNOWN HYDROCARBON	6.80	6300	BJ
5.	UNKNOWN HYDROCARBON	6.98	2000	J
6.	UNKNOWN KETONE	7.20	660	BJ
7.	UNKNOWN ALCOHOL	8.25	330	BJ
8.	UNKNOWN ALCOHOL	9.03	230	J
9.	UNKNOWN KETONE	12.68	170	BJ
10.	UNKNOWN CARBOXYLIC ACID ESTE	20.00	1000	BJ
11.	HEXANEDIOIC ACID ISOMER	24.55	99	BJ
12.	UNKNOWN HYDROCARBON	27.52	99	J

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07HG2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-02B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21029S14

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.4

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.

B07HG2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-02B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21029S14

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.4

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	52	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

EPA SAMPLE NO.

B07HG2

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-02B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21029S14

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.4

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.63	41000	BJ
2.	UNKNOWN HYDROCARBON	5.87	84000	BJ
3.	UNKNOWN HYDROCARBON	6.18	270	BJ
4.	UNKNOWN HYDROCARBON	6.68	4200	BJ
5.	UNKNOWN HYDROCARBON	6.87	380	J
6.	UNKNOWN KETONE	7.10	480	BJ
7.	UNKNOWN KETONE	12.63	140	BJ
8.	UNKNOWN COMPOUND	21.07	960	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-06B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21029S18

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.9

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.

B07HG3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-06B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21029S18

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.9

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	270	J
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	44	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

EPA SAMPLE NO.

B07HG3

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-06B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21029S18

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.9

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.73	41000	BJ
2.	UNKNOWN HYDROCARBON	5.97	93000	BJ
3.	UNKNOWN HYDROCARBON	6.25	270	BJ
4.	UNKNOWN HYDROCARBON	6.73	3900	BJ
5.	UNKNOWN HYDROCARBON	6.92	310	J
6.	UNKNOWN KETONE	7.15	440	BJ
7.	UNKNOWN KETONE	12.68	140	BJ
8.	UNKNOWN CARBOXYLIC ACID ESTE	20.00	1000	BJ

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-03B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 21029S15

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

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	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

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-03B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 21029S15

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

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	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	1300	
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	47	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

1F

EPA SAMPLE NO.

B07HG4

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-03B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 21029S15

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.78	42000	BJ
2.	UNKNOWN HYDROCARBON	6.00	93000	BJ
3.	UNKNOWN HYDROCARBON	6.28	270	BJ
4.	UNKNOWN HYDROCARBON	6.77	5300	BJ
5.	UNKNOWN KETONE	6.95	170	J
6.	UNKNOWN KETONE	7.17	300	BJ
7.	UNKNOWN KETONE	12.68	140	BJ
8.	HEXANEDIOIC ACID ISOMER	24.57	100	BJ

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-04B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 21029S16

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

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	810	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	810	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	810	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	810	U

9613499.0030

000030

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-04B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 21029S16

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

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	810	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	810	U
534-52-1	4,6-Dinitro-2-methylphenol	810	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	810	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	47	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

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B07HG6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-04B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 21029S16

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.85	38000	BJ
2.	UNKNOWN HYDROCARBON	6.02	87000	BJ
3.	UNKNOWN HYDROCARBON	6.30	300	BJ
4.	UNKNOWN HYDROCARBON	6.78	5900	BJ
5.	UNKNOWN KETONE	7.15	270	BJ
6.	UNKNOWN KETONE	12.63	140	BJ
7.	UNKNOWN CARBOXYLIC ACID ESTE	19.97	1200	BJ
8.	HEXANEDIOIC ACID ISOMER	24.52	100	BJ

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-05B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21029S17

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

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	810	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	810	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	810	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	810	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-05B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21029S17

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

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	810	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	810	U
534-52-1	4,6-Dinitro-2-methylphenol	810	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	810	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	57	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

EPA SAMPLE NO.

B07HG7

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-05B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21029S17

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.68	39000	BJ
2.	UNKNOWN HYDROCARBON	5.90	92000	BJ
3.	UNKNOWN HYDROCARBON	6.20	270	BJ
4.	UNKNOWN HYDROCARBON	6.68	4100	BJ
5.	UNKNOWN KETONE	7.10	270	BJ
6.	UNKNOWN CARBOXYLIC ACID ESTE	19.95	1200	BJ

9613499.0035

000035

EPA SAMPLE NO.

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B07HG1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-01D

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

% Moisture: 1 decanted: (Y/N) N Date Received: 10/16/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.7 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	67	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

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-02B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: _____

% Moisture: 3 decanted: (Y/N) N Date Received: 10/16/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.4 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

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-06B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: _____

% Moisture: 3 decanted: (Y/N) N Date Received: 10/19/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.9 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.

B07HG4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-03B

Sample wt/vol: 30.1 (g/mL) G Lab File ID:

% Moisture: 4 decanted: (Y/N) N Date Received: 10/16/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/04/92

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	3.4	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

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-04B

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

% Moisture: 2 decanted: (Y/N) N Date Received: 10/16/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/04/92

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	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

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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-05B

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

% Moisture: 3 decanted: (Y/N) N Date Received: 10/19/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/04/92

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	3.4	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

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B07HG3

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

Lab Code: SKINER Case No.: N2-10-144$AS No.: SDG No.: B07HG1

Matrix (soil/water): SOIL Lab Sample ID: 10398-02S

Level (low/med): LOW Date Received: 10/20/92

% Solids: 95.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5450			P
7440-36-0	Antimony	3.2	U	N	P
7440-38-2	Arsenic	2.7			F
7440-39-3	Barium	60.4		E	P
7440-41-7	Beryllium	0.09	B		P
7440-43-9	Cadmium	0.19	U		P
7440-70-2	Calcium	6680			P
7440-47-3	Chromium	13.0		*	P
7440-48-4	Cobalt	7.5	B		P
7440-50-8	Copper	27.3			P
7439-89-6	Iron	16500			P
7439-92-1	Lead	4.4		S	F
7439-95-4	Magnesium	4430			P
7439-96-5	Manganese	281			P
7439-97-6	Mercury	0.31			CV
7440-02-0	Nickel	10.7			P
7440-09-7	Potassium	842	B		P
7782-49-2	Selenium	0.67	U		F
7440-22-4	Silver	1.3	B		P
7440-23-5	Sodium	179	B		P
7440-28-0	Thallium	0.32	U	W	F
7440-62-2	Vanadium	37.1			P
7440-66-6	Zinc	43.8		E	P
	Cyanide	0.50	U		CA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

FORM I - IN ILM02.1

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:
B07HG2

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

Lab Code: SKINER Case No.: N2-10-144SAS No.: SDG No.: B07HG1

Matrix (soil/water): SOIL Lab Sample ID: 10398-04S

Level (low/med): LOW Date Received: 10/20/92

% Solids: 95.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5010			P
7440-36-0	Antimony	3.1	U	N	P
7440-38-2	Arsenic	1.9			F
7440-39-3	Barium	57.8		E	P
7440-41-7	Beryllium	0.10	B		P
7440-43-9	Cadmium	0.18	U		P
7440-70-2	Calcium	5300			P
7440-47-3	Chromium	5.1		*	P
7440-48-4	Cobalt	9.3			P
7440-50-8	Copper	14.7			P
7439-89-6	Iron	18800			P
7439-92-1	Lead	4.6			F
7439-95-4	Magnesium	3810			P
7439-96-5	Manganese	298			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	7.7			P
7440-09-7	Potassium	923			P
7782-49-2	Selenium	0.68	U		F
7440-22-4	Silver	0.48	B		P
7440-23-5	Sodium	213	B		P
7440-28-0	Thallium	0.32	U	W	F
7440-62-2	Vanadium	41.7			P
7440-66-6	Zinc	35.1		E	P
	Cyanide	0.52	U		CA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

FORM I - IN ILM02.1

9613499.0043

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

DEC 1992
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OSM DMO

RECORD COPY

December 23, 1992

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

Quality Control Narrative

Scope
Six (6) soil samples were submitted to TMA/Skinner & Sherman Laboratories, Inc. on October 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 S210398.

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 chromium laboratory duplicates exceeded the control limit requirements.

The ICP serial dilution for zinc and barium 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
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HG1

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

Lab Code: SKINER Case No.: N2-10-144$AS No.: SDG No.: B07HG1

Matrix (soil/water): SOIL Lab Sample ID: 10398-03S

Level (low/med): LOW Date Received: 10/20/92

% Solids: 97.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5480			P
7440-36-0	Antimony	3.2	U	N	P
7440-38-2	Arsenic	1.9	B		F
7440-39-3	Barium	63.3		E	P
7440-41-7	Beryllium	0.54	B		P
7440-43-9	Cadmium	0.19	U		P
7440-70-2	Calcium	2870			P
7440-47-3	Chromium	6.7		*	P
7440-48-4	Cobalt	8.3	B		P
7440-50-8	Copper	11.7			P
7439-89-6	Iron	16400			P
7439-92-1	Lead	6.4			F
7439-95-4	Magnesium	2870			P
7439-96-5	Manganese	306			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	8.1			P
7440-09-7	Potassium	911	B		P
7782-49-2	Selenium	0.69	U	W	F
7440-22-4	Silver	1.2	B		P
7440-23-5	Sodium	170	B		P
7440-28-0	Thallium	0.33	U	W	F
7440-62-2	Vanadium	42.0			P
7440-66-6	Zinc	37.0		E	P
	Cyanide	0.51	U		CA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B07HG4

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

Lab Code: SKINER Case No.: N2-10-144$AS No.: SDG No.: B07HG1

Matrix (soil/water): SOIL Lab Sample ID: 10398-05S

Level (low/med): LOW Date Received: 10/20/92

% Solids: 95.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4730			P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	2.1		S	F
7440-39-3	Barium	59.6		E	P
7440-41-7	Beryllium	0.62	B		P
7440-43-9	Cadmium	0.20	U		P
7440-70-2	Calcium	6220			P
7440-47-3	Chromium	10.0		*	P
7440-48-4	Cobalt	5.4	B		P
7440-50-8	Copper	10.6			P
7439-89-6	Iron	12700			P
7439-92-1	Lead	3.6			F
7439-95-4	Magnesium	4180			P
7439-96-5	Manganese	238			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	9.8			P
7440-09-7	Potassium	849	B		P
7782-49-2	Selenium	0.67	U	MW	F
7440-22-4	Silver	0.61	B		P
7440-23-5	Sodium	118	B		P
7440-28-0	Thallium	0.32	U	W	F
7440-62-2	Vanadium	22.7			P
7440-66-6	Zinc	28.5		E	P
	Cyanide	0.51	U		CA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

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1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:
B07HG6

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

Lab Code: SKINER Case No.: N2-10-144$AS No.: SDG No.: B07HG1

Matrix (soil/water): SOIL Lab Sample ID: 10398-06S

Level (low/med): LOW Date Received: 10/20/92

% Solids: 92.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3800			P
7440-36-0	Antimony	3.4	U	N	P
7440-38-2	Arsenic	1.0	B		F
7440-39-3	Barium	46.0		E	P
7440-41-7	Beryllium	0.15	B		P
7440-43-9	Cadmium	0.20	U		P
7440-70-2	Calcium	3110			P
7440-47-3	Chromium	9.3		*	P
7440-48-4	Cobalt	3.8	B		P
7440-50-8	Copper	11.0			P
7439-89-6	Iron	8840			P
7439-92-1	Lead	2.8			F
7439-95-4	Magnesium	2440			P
7439-96-5	Manganese	185			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	6.7	B		P
7440-09-7	Potassium	792	B		P
7782-49-2	Selenium	0.76	U	W	F
7440-22-4	Silver	0.51	U		P
7440-23-5	Sodium	172	B		P
7440-28-0	Thallium	0.36	U	W	F
7440-62-2	Vanadium	14.9			P
7440-66-6	Zinc	24.3		E	P
	Cyanide	0.53	U		CA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

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SAMPLE NUMBE

INORGANIC ANALYSIS DATA SHEET

B07HG7

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

Lab Code: SKINER Case No.: N2-10-144$AS No.: SDG No.: B07HG

Matrix (soil/water): SOIL Lab Sample ID: 10398-01S

Level (low/med): LOW Date Received: 10/20/92

% Solids: 94.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4180			P
7440-36-0	Antimony	3.5	U	N	P
7440-38-2	Arsenic	1.1	B		F
7440-39-3	Barium	50.1		E	P
7440-41-7	Beryllium	0.52	B		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	4180			P
7440-47-3	Chromium	11.1		*	P
7440-48-4	Cobalt	3.7	B		P
7440-50-8	Copper	20.1			P
7439-89-6	Iron	8080			P
7439-92-1	Lead	3.2			F
7439-95-4	Magnesium	2680			P
7439-96-5	Manganese	170			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	7.3	B		P
7440-09-7	Potassium	880	B		P
7782-49-2	Selenium	0.75	U		F
7440-22-4	Silver	0.52	U		P
7440-23-5	Sodium	185	B		P
7440-28-0	Thallium	0.35	U	W	F
7440-62-2	Vanadium	15.9			P
7440-66-6	Zinc	24.1		E	P
	Cyanide	0.52	U		CA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

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007

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER 5188040211

2237M 5188040211

1 Date 10-19-92

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 KRIGHT AVE

City: RICHMOND State: CA ZIP Required: 94804

2 To (Recipient's Name) Please Print: SAMPLE CONTROL

Recipient's Phone Number (Very Imp

Company: SKADDEN & SHERMAN

Department/Floor

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 300 SECOND AVENUE

City: WALTHAM State: MA ZIP Required: 02254

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 [✓] 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 [✓] 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 for authorized users only)
46 [ ] GOVT LETTER
41 [ ] GOVT PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Confirmed reservations 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 (If Pounds, Only)	YOUR DECLARED VALUE
Total 1	Total 17	Total

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

Received At
1 [✓] 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 10/20/92 FedEx Employee Number 10:00

7 Release Signature:

Federal Express U
Base Charges
Declared Value Char
Other 1
Other 2
Total Charges

REVISION DATE 2/92
PART #137204 FXEM
FORMAT #126
126

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TMA/Skinner & Sherman Labs SAMPLE LOG-IN

WORKORDER S210398 CLIENT Hanford Nor No. SAMPLES:

PROTCL CLP TURNARND 33 Day 6 (Soil) (Water) (Specify Other)

COOLER TEMP: 4 oC, or NA

CUSTODIAN B. Prosle SDG/BATCH N/A

CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N210144, N210150, N2101

SHIPER & # Fed Ex PO/CONTRACT# ↓

TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT D. Sanchez

CHAIN OF CUSTODY: PRESENT/ABSENT/NA,# N/A COMMENTS: none

SAMPLE CONTAINERS-INTACT/BROKEN COMMENTS

CLIENT COMMENT? YES/NO

SAMPLE LABELS AGREE WITH CHAIN OF CUSTODY INFO? YES/NO (COMMENT)

CLIENT PAPERWORK AGREES WITH SAMPLES & COC? YES /NO (COMMENT)

SHIPMENT DATES 10-20-92

LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
1	B07H67	Soil	10/20/92	N/A	DS TM / CN	
2	B07H63	↓	↓			
3	B07H61	Soil	10/20/92	N/A		
4	B07H62	↓	↓			
5	B07H64					
6	B07H66					
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24						
25						
26						
27						

Samples are from site known to have Rad-Contamination: YES ✓ NO

Samples have detectable amounts of Radioactive Material: YES ✓ NO

SUBCONTRACT: YES/NO, TO: DATE:

REVIEWED

Complete 10/22/92 BP

* EPA/CLP required Rev 1.6 PAGE: 1

9613499.0050

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-150

RCVD: 10/19/92 DUE: 11/18/92 10/19/92 15:25:37 KEEP: 02/16/93 DISP: S

100-KR-1

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-S	B07HG3	S&S	WH001	WH002	WH004	WH005	WH233
01F-S	B07HG3 MS	S&S	WH001	WH002	WH004	WH005	WH233
01G-S	B07HG3 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
Yamamoto	10-19-92	SKINNER	10-19-92	[illegible]	10/20/92

9613499.0051

TMA

RECORD COPY

WESTINGHOUSE HANFORD COMPANY

DEC 1992
RECEIVED
OSM DMO

Results of Analyses For:

ORGANICS & GENERAL CHEMISTRY
Case No. 10-051
(TMA/ARLI Work Order # A2-10-051)

METALS
Case Nos. N2-10-144, N2-10-135, & N2-10-150
(TMA/Skinner & Sherman W.O. # S2-10-398 & S2-10-399)

December 29, 1992

TMA Master Work Orders N2-10-144, N2-10-135, & N2-10-150

DEC 1992
RECEIVED
OSM DMO

GENERAL CHEMISTRY RESULTS

CASE NO. 10-051

Soil Sample #:

B07HG1	B07HG2	B07HG4
B07HG6	B07HG7	B07HG3

CASE NARRATIVE

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

Ernesto Vazquez

Ernesto Vazquez

TMA Inc. REPORT Work Order # A2-10-051

Received: 10/19/92 12/11/92 16:55:47

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 Vázquez

CONTACT: EVV CIH

CLIENT: WHC SAMPLES: 7
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. #: N2-10-135/144/150-SU-AR
INVOICE: under separate cover

SAMPLE IDENTIFICATION

01	B07HG1
01	B07HG1 MS
01	B07HG1 MSD
01	B07HG1
01	B07HG1 MS
01	B07HG1 MSD
01	B07HG1
01	B07HG1 MS
02	B07HG2
02	B07HG2 MS
02	B07HG2 MSD
02	B07HG2
02	B07HG2 Duplicate
03	B07HG4
04	B07HG6
05	B07HG7
06	B07HG3
07	Wet Chemistry Blank

TEST CODES and NAMES used on this workorder

BNCLPS	CLP Semivol. Sol. - WH016
IC_AN	Anions Extraction Solids
PECLPS	CLP Pest\PCBs Soil - WH015
PH SOL	pH of Solids
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
WSO4 S	Sulfate (in Solids)

TMA Inc. REPORT Work Order # A2-10-051

Received: 10/19/92

Results by Sample

SAMPLE ID B07MG1 FRACTION 01G TEST CODE WCCLPS NAME Anions in Solids - WN232

Date & Time Collected 10/12/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.6	mg/Kg	0.2
Sulfate	300.0	6	mg/Kg	2

FORM I

TMA Inc. REPORT Work Order # A2-10-051

Received: 10/19/92

Results by Sample

SAMPLE ID B07MG2 FRACTION 02E TEST CODE VCCLPS NAME Anions in Solids - VM232

Date & Time Collected 10/13/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	1.0	mg/Kg	0.2
Sulfate	300.0	43	mg/Kg	2

FORM I

9613499.0056

000013

TMA Inc. REPORT Work Order # A2-10-051

Received: 10/19/92

Results by Sample

SAMPLE ID B07MG4 FRACTION 03C TEST CODE WCCLPS NAME Anions in Solids - WM232

Date & Time Collected 10/13/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.6	mg/Kg	0.2
Sulfate	300.0	6	mg/Kg	2

FORM I

T' Work Order # A2-10-0BA Inc. REPORT
Received: 10/19/92 Results by Sample

SAMPLE ID B07NG6 FRACTION 04C TEST CODE VCCLPS NAME Anions in Solids - VM232
Date & Time Collected 10/13/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.7	mg/Kg	0.2
Sulfate	300.0	13	mg/Kg	2

FORM I

TMA Inc. REPORT Work Order # A2-10-051

Received: 10/19/92

Results by Sample

SAMPLE ID B07MG7 FRACTION 05C TEST CODE WCCLPS NAME Anions in Solids - WM232

Date & Time Collected 10/14/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	<0.2	mg/Kg	0.2
Sulfate	300.0	8	mg/Kg	2

FORM I

TMA Inc. REPORT Work Order # A2-10-051

Received: 10/19/92

Results by Sample

SAMPLE ID B07MG3 FRACTION 06C TEST CODE VCCLPS NAME Anions in Solids - VM232

Date & Time Collected 10/13/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.6	mg/Kg	0.2
Sulfate	300.0	10	mg/Kg	2

FORM I

9613499.0060

000002

PAGE 1 TNA/Norcal CHAIN OF CUSTODY ORD # N2-10-135

RCVD: 10/16/92 DUE: 11/15/92 10/16/92 15:08:12 KEEP: 02/13/93 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01A-S	B07NG1		ARLI (2)	WN014	WN015	WN016	WN217	WN232
02A-S	B07NG2		ARLI (2)	WN014	WN015	WN016	WN217	WN232
03A-S	B07NG4		ARLI (2)	WN014	WN015	WN016	WN217	WN232
04A-S	B07NG6		ARLI (2)	WN014	WN015	WN016	WN217	WN232
04C-S	B07NG6	MS	ARLI	WN014	WN015	WN016	WN232	
04D-S	B07NG6	MSD	ARLI	WN014	WN015	WN016		
04E-S	B07NG6	DUP	ARLI	WN217	WN232			

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Vicky Yamamoto	10-19-92	ARLI	10-19-92	[illegible]	10/20/92

9613499.0061

000003

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-144
RCVD: 10/19/92 DUE: 11/18/92 10/19/92 14:04:00 KEEP: 02/16/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01A-S	B07HG7	ARLI	: WH014	WH015	WH016	WH217	WH232
01C-S	B07HG7 MS	ARLI	: WH014	WH015	WH016	WH232	
01D-S	B07HG7 MSD	ARLI	: WH014	WH015	WH016		
01E-S	DUP	ARLI	: WH217	WH232			

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	10-19-92	ARLI	10-19-92	Trudy [illegible]	10/20/92

9613499.0062

000004

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-150

RCVD: 10/19/92 DUE: 11/18/92 10/19/92 15:25:16 KEEP: 02/16/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY
01A-S	B07HG3	ARLI (2)	WH014 WH015 WH016 WH217 WH232
01C-S	B07HG3 MS	ARLI	WH014 WH015 WH016 WH232
01D-S	B07HG3 MSD	ARLI	WH014 WH015 WH016
01E-S	B07HG3 DUP	ARLI	WH217 WH232

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Eyamamoto	10-19-92	ARLI	10-19-92	[illegible]	10/20/92

9613499.0063

000005

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 5188040111

5188040115

RECIPIENT'S COPY

1 Date 10.19 92

From (Your Name) Please Print: SAMPLE CONTROL

Your Phone Number (Very Important): (310)235-2033

Department/Floor No.

Company: TMA INDUSTRIAL

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 (We

Company: TMA ARL

Department

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 160 TAYLOR ST

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 [✓] 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 [✓] YOUR PACKAGING
- 16 [ ] FEDEX LETTER*
- 12 [ ] FEDEX PAK*
- 13 [ ] FEDEX BOX
- 14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon to 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 (Available for authorized users only)
- 46 [ ] GOV'T LETTER
- 41 [ ] GOV'T PACKAGE

Freight Service (For packages over 150 lbs.)
- 70 [ ] OVERNIGHT FREIGHT** (Commercial destination 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 1 | Total 56 | Total

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

Received At: 1 [✓] 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 Del [ ] Chg. To Hold

Street Address

City State Zip

Received By: X

Date/Time Received FedEx Employee Number

Federal Exp
Base Charges
Declared Valu
Other 1
Other 2
Total Charges

REVISION DATE 7
PART #137204
FORMAT #126
126

© 1991-92 FEDEX PRINTED IN U.S.A.

Temp: 3.2 C

9613499.0864

000006

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 10/20/92 COMPANY NORAL OTHER ORD # 5188040115

Surveyor's Name MARK S. McCraig

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		31.0			2.0				
Consistency		7,380	0.2849						
Smear: SML244		53.0			1.0			None	
Reported (WHC)	6 samples			each	<	5 pCi/gram			

Comments:

All OK ✓ Approved M Sim

Not OK Date 10/20/92

Form: ARLI RA-01
Rev: 06

01/15/92

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI

PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): Trudy Golub

LOG-IN-DATE : 10/20/92

RECEIVED BY (SIGNATURE): Trudy Golub

CASE NUMBER:

SAMPLE DELIVERY GROUP NO.:

SAS NUMBER:

REMARKS:

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.: 5188040115
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: 10/20/92
12. Temp of ice chest 3.2 °C
13. Time Recieved: 0945

SAMPLE TRANSFER

Fraction: _____

Area #: _____

By: _____

On: _____

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B07HG1	A2-10-051-01	
	B07HG2	A2-10-051-02	
	B07HG4	A2-10-051-03	
	B07HG6	A2-10-051-04	
	B07HG7	A2-10-051-05	
	B07HG3	A2-10-051-06	

* Contact SMO and attach record of resolution

Reviewed By: _____ Logbook No.: _____

Date: _____ Logbook Page No.: _____

FORM DC-1

9613499.0066

TMA

Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

QUALITY ENVIRONMENTAL SERVICES

DEC 1992
RECEIVED
OSM DMO

Report for

TMA/Norcal

WORK ORDER #S210399

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

9613499.0067

000001 2/10/92

Page 1 Skinner&Sherman REPORT Work Order # S2-10-399

Received: 10/20/92 12/23/92 15:17:18

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

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 7
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 N2-10-144,N2-10-150,N210135
TAKEN BY CLIENT
TRANS FED EX
TYPE SOLID
P.O. # N2-10-144,N2-10-150,N210135
INVOICE under separate cover

SAMPLE IDENTIFICATION

01 B07HG7
01 B07HG7 DUPL
01 B07HG7 SPIKE
02 B07HG3
03 B07HG1
04 B07HG2
05 B07HG4
06 B07HG6
07 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 satisf 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 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

Received: 10/20/92

Results by Sample

SAMPLE ID B07HG7 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 10/14/92 Category SOLID

NO3NO2 <2.49
mg N/kg

SAMPLE ID B07HG7 DUPL SAMPLE # 01 FRACTIONS: B
Date & Time Collected 10/14/92 Category SOLID

NO3NO2 <2.48
mg N/kg

SAMPLE ID B07HG7 SPIKE SAMPLE # 01 FRACTIONS: C
Date & Time Collected 10/14/92 Category SOLID

NO3NO2 19.9
mg N/kg

SAMPLE ID B07HG3 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 10/13/92 Category SOLID

NO3NO2 <2.47
mg N/kg

SAMPLE ID B07HG1 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 10/13/92 Category SOLID

NO3NO2 3.71
mg N/kg

SAMPLE ID B07HG2 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 10/13/92 Category SOLID

NO3NO2 18.6
mg N/kg

SAMPLE ID B07HG4 SAMPLE # 05 FRACTIONS: A
Date & Time Collected 10/13/92 Category SOLID

NO3NO2 <2.47
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 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. Clic
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 invoi
amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. w
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 f
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

Page 3 Skinner&Sherman REPORT Work Order # S2-10-399

Received: 10/20/92 Results by Sample

SAMPLE ID B07HG6 SAMPLE # 06 FRACTIONS: A

Date & Time Collected 10/13/92 Category SOLID

NO3NO2 <2.50

mg N/kg

SAMPLE ID LCSS SAMPLE # 07 FRACTIONS: A

Date & Time Collected not specified Category SOLID

NO3NO2 1.89

mg N/L

TMA

Thermo Analytical Inc.

Skinner & Sherman Laboratories Inc.

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

Page 5 Skinner&Sherman REPORT Work Order # S2-10-399

Received: 10/20/92 Test Methodology

TEST CODE NO3NO2 NAME Nitrate Plus Nitrite

Methods for Chemical Analysis of Water and Wastes
EPA - 600/4-79-020 March 1979 Method 353.2 (modified)

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 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. w 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.

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

TMA/Skinner & Sherman Labs SAMPLE LOG-IN
WORKORDER 5210399 CLIENT HANFORD NOR No. SAMPLES:
PROTCL CLP TURNARND 33 Day 6
COOLER TEMP: 4 oC, or NA (Soil) (Water) (Specify Other
CUSTODIAN B. Powell SDG/BATCH N/A
CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N210144, N210150, N2101
SHIPER & # Fed Ex PO/CONTRACT# ✓
TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT D. SANCHEZ
CHAIN OF CUSTODY: PRESENT/ABSENT/NA, # N/A COMMENTS: None

SAMPLE CONTAINERS-INTACT/BROKEN COMMENTS

CLIENT COMMENT? YES/NO
SAMPLE LABELS AGREE WITH CHAIN OF CUSTODY INFO? YES/NO (COMMENT)
CLIENT PAPERWORK AGREES WITH SAMPLES & COC? YES /NO (COMMENT)

SHIPMENT DATES 10-20-92
LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD ~~TIME~~ UP
1	B07H67	Soil	10/20/92	N/A	D.S NO3 NO2	DUE
2	B07H63	↓	↓	↓	↓	11/11/92
3	B07H61					
4	B07H62					
5	B07H64					
6	B07H66					
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

Samples are from site known to have Rad-Contamination: YES ✓ NO
Samples have detectable amounts of Radioactive Material: YES ✓ NO

SUBCONTRACT: YES/NO TO: DATE:

REVIEWED

complete 10/22/92

* EPA/CLP required Rev 1.6 --- PAGE:

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # M2-10-144
RCVD: 10/19/92 DUE: 11/18/92 10/19/92 14:04:21 KEEP: 02/16/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-S	B07HG7	S&S	WH001	WH002	WH004	WH005	WH233
01F-S	B07HG7 MS	S&S	WH001	WH002	WH004	WH005	WH233
01G-S	B07HG7 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
Yyamamoto	10-19-92	SKINNER	10-19-92	[illegible]	10/20/92

9613499.0073

000036

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # M2-10-135

RCVD: 10/16/92 DUE: 11/15/92 10/16/92 15:08:28 KEEP: 02/13/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGOR				
01B-S	B07HG1	S&S	WH001	WH002	WH004	WH005	WH233
02B-S	B07HG2	S&S	WH001	WH002	WH004	WH005	WH233
03B-S	B07HG4	S&S	WH001	WH002	WH004	WH005	WH233
04B-S	B07HG6	S&S	WH001	WH002	WH004	WH005	WH233
04F-S	B07HG6 MS	S&S	WH001	WH002	WH004	WH005	WH233
04G-S	B07HG6 DUP	S&S	WH001	WH002	WH004	WH005	WH233
04H-S	L C S	S&S	WH001	WH002	WH004	WH005	WH233

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Elly Yamamoto	10-19-92	SKINNER	10-19-92	[illegible]	10/20/92

9613499.0074

000031

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-150
RCVD: 10/19/92 DUE: 11/18/92 10/19/92 15:25:37 KEEP: 02/16/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-S	B07HG3	S&S	WH001	WH002	WH004	WH005	WH233
01F-S	B07HG3 MS	S&S	WH001	WH002	WH004	WH005	WH233
01G-S	B07HG3 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
Yamamoto	10-19-92	SKINNER	10-19-92	[illegible]	10/20/92

9613499.0075

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

FEB 1993
RECEIVED
OSM DMO

February 11, 1993

SENT BY FEDERAL EXPRESS

Ref. TMA/Norcal N2-11-152-7117

Mr. John Bourgeault
Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23
345 Hills Street/3000 Area
Richland, WA 99352

RECORD COPY

Dear Mr. Bourgeault:

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 16 October 1992. The QA/QC results are also given in the Summary Data Section. The Summary Data Section is numbered pages 1 to 51, and the appendices are numbered pages 52 to 431.

Please call if you have any questions concerning this data.

Sincerely,

M. Joseph Venille

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

DPK/jw

Enclosures: Sections 1 and 2
Appendices

SDG	7117	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 7117) are reported herein. TMA/Norcal Group 7117 is comprised of the nine samples listed on the Chain-of-Custody documents below which are identified as samples 1 through 9.

1.1 CHAINS-OF-CUSTODY

This report includes data from samples delivered under Chain-of-Custody document Field Logbook No. EFL-1051.

1.2 SAMPLE VOLUME

1000 mL glass 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 10/12/92 and 10/21/92 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 7117-10 through 12.

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 within contract specifications except gross alpha, $^{239/240}Pu$ and ^{14}C which were 61%, 70% and 282% respectively and did not pass the 3σ total error limits. The gross alpha planchet looked good, the deposition on the planchet was uniform and we did not find anything abnormal. The low found/added ratio however, is still being investigated. The LCS recovery for $^{239,240}Pu$ with errors of $\pm$ 14% was within 3σ total error limits.

001B
3/11/93

SDG	7117	Client	Westinghouse Hanford
Contact	Dinkar P. Kharkar	Contract	MBH-SVV-069262

CASE NARRATIVE

2.1 LABORATORY CONTROL SAMPLES (cont'd)

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 this processing batch 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. We 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 gave the Found/Added ratio of (0.925 $\pm$ 5)%. 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.

2.2 BLANKS

MDA's for all analyses meet RDL requirements.

2.3 REPLICATES

Results were satisfactory for all replicate analyses. The MDA's for gamma nuclides were higher than the RDL due to small aliquots available for the replicate analysis. The MDA of ^{59}Fe for the original sample was higher than the RDL due to the short half-life of ^{59}Fe. The ^{60}Co in the original sample 7117-1 was 0.0324 $\pm$ 52% (1σ). The MDA was calculated as 1.65 times the 1σ error plus 0.0324 and reported as <0.06, slightly higher than the RDL. The ^{241}Am MDA was higher than the RDL due to a low chemical yield.

3.0 ANALYTICAL NOTES

3.1 Gross Alpha Analyses: The average MDA for gross alpha was (6 $\pm$ 3) pCi/g. Gross alpha activity above the RDL was not found in any of the samples. The residue weight of planchet 7117-2 was higher than the nominal residue weight limit of 5-150 mg.

001C
3/11/93

SDG	7117	Client	Westinghouse Hanford
Contact	Dinkar P. Kharkar	Contract	MBH-SVV-069262

CASE NARRATIVE

3.2 Gross Beta Analyses: The average MDA for gross beta was (5 ± 1) pCi/g. Gross beta activity above the RDL was found in all of the samples. The residue weight of planchet 7117-2 was higher than the nominal residue weight limit of 5-150 mg.

3.3 Carbon-14 Analyses: The average MDA was 9 ± 2 pCi/g. All sample results were less than the MDA. Positive ^{14}C activity was not found in any of the samples.

3.4 Strontium-90 Analysis: The average yield for twelve analyses was (70 ± 11)%. The lowest yield was 56% and the highest was 76%. The average MDA was (1 ± 0.6) pCi/g. Positive strontium concentration was found only in samples 7117-3 and 6. All other sample results were below MDA. The MDA for 7117-2 was 2 pCi/g, slightly higher than the RDL due to rounding-off error.

3.5 Uranium-233, 234, and 238 Analyses: The average yield for twelve analyses was (65 ± 20)%. The lowest yield was 48% and the highest was 80%. The average MDA was (0.1 ± .06) pCi/g. Positive concentrations of ^{234}U and ^{238}U above RDL were found in all the samples except in sample 7117-4.

3.6 Plutonium-238, 239/240 Analyses: The average yield for twelve analyses was (53 ± 30)%. The lowest yield was 24% and the highest 72%. The average MDA was (0.05 ± 0.04) pCi/g. Positive plutonium concentrations above the RDL were found in samples 7117-3,6, and 9. All other sample results were below MDA. The samples 7117-6, 8, and 9 had higher MDA's due to low chemical yield.

3.7 Americium-241 Analyses: The average yield for twelve analyses was (67 ± 39)% The lowest yield was 28% and the highest yield was 88%. The average MDA was (0.04 ± 0.04) pCi/g. Positive americium concentrations above RDL was found in sample 7117-6 only. All other sample results were below the RDL. Samples 7117-1 and 4 had higher MDA's due to low chemical yield. The count time for all samples except 7117-1 were less than the nominal count time limit of 700 minutes.

3.8 Gamma Scan Analyses: The average MDA was (0.5 ± 1) pCi/g. All MDA's were underlined due to the short half-life of ^{59}Fe.

001D
3/11/93

9613499.0079

N210152-01

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HG1

SDG 7117
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-01
Dept sample id 7117-001
Received 10/16/92
Client sample id B07HG1
Matrix SOIL
Collected 10/12/92
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	5.3	5.2	7	10	U	80A
Gross Beta	Beta	12	4.0	5	10		80B
Uranium 233/234		0.46	0.16	0.1	0.3		U
Uranium 235	15117-96-1	0.039	0.052	0.1	0.3	U	U
Uranium 238	7440-61-1	0.32	0.13	0.08	0.3		U
Plutonium 238	13981-16-3	0.010	0.028	0.05	0.05	U	PU
Plutonium 239/240		0.024	0.021	0.03	0.05	U	PU
Americium 241	14596-10-2	0.018	0.047	0.1	0.05	U	AM
Strontium 90	10098-97-2	-0.14	0.84	1	1	U	Y
Carbon 14	14762-75-5	-3.9	5.2	9	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	11	0.70				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		0.06	0.05	U	GAM
Zinc 65	17982-39-3	U		0.1		U	GAM
Ruthenium 106	13967-48-1	U		0.3		U	GAM
Cesium 134	17967-70-9	U		0.04		U	GAM
Cesium 137	10045-97-3	0.46	0.048		0.05		GAM
Europium 152	14683-23-9	U		0.07	0.1	U	GAM
Europium 154	15585-10-1	U		0.05	0.1	U	GAM
Radium 226	13982-67-7	0.39	0.071				GAM
Thorium 228	14274-82-9	0.72	0.047				GAM
Thorium 232	7440-29-1	0.60	0.15				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0080

N210152-02

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HG2

SDG 7117
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-02
Dept sample id 7117-002
Received 10/16/92
Client sample id B07HG2
Matrix SOIL
Collected 10/13/92
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	4.7	4.3	5	10	U	80A
Gross Beta	Beta	12	3.0	4	10		80B
Uranium 233/234		0.49	0.18	0.1	0.3		U
Uranium 235	15117-96-1	0.051	0.068	0.1	0.3	U	U
Uranium 238	7440-61-1	0.64	0.21	0.1	0.3		U
Plutonium 238	13981-16-3	0.010	0.021	0.04	0.05	U	PU
Plutonium 239/240		0.005	0.010	0.02	0.05	U	PU
Americium 241	14596-10-2	0.006	0.016	0.03	0.05	U	AM
Strontium 90	10098-97-2	0.43	0.49	2	1	U	Y
Carbon 14	14762-75-5	-1.3	4.6	8	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	10	0.83				GAM
Iron 59		U		0.4	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	0.34	0.050		0.05		GAM
Europium 152	14683-23-9	0.090	0.078		0.1	J	GAM
Europium 154	15585-10-1	U		0.1	0.1	U	GAM
Radium 226	13982-67-7	0.47	0.087				GAM
Thorium 228	14274-82-9	0.66	0.051				GAM
Thorium 232	7440-29-1	0.77	0.18				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0081

N210152-06

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HG3

SDG 7117
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-06
Dept sample id 7117-006
Received 10/19/92

Client sample id B07HG3
Matrix SOIL
Collected 10/13/92
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	9.3	3.8	3	10	J	80A
Gross Beta	Beta	210	7.2	4	10		80B
Uranium 233/234		0.61	0.20	0.1	0.3		U
Uranium 235	15117-96-1	0.032	0.033	0.1	0.3	U	U
Uranium 238	7440-61-1	0.57	0.20	0.1	0.3		U
Plutonium 238	13981-16-3	0.19	0.065	0.07	0.05		PU
Plutonium 239/240		2.4	0.28	0.03	0.05		PU
Americium 241	14596-10-2	1.7	0.17	0.03	0.05		AM
Strontium 90	10098-97-2	3.9	1.4	1	1		Y
Carbon 14	14762-75-5	1.1	4.4	7	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	17	1.1				GAM
Iron 59		U		2	0.05	U	GAM
Chromium 51	14392-02-0	U		20		U	GAM
Cobalt 60	10198-40-0	15	0.29		0.05		GAM
Zinc 65	17982-39-3	U		1		U	GAM
Ruthenium 106	13967-48-1	U		3		U	GAM
Cesium 134	17967-70-9	U		0.3		U	GAM
Cesium 137	10045-97-3	150	0.70		0.05		GAM
Europium 152	14683-23-9	76	1.0		0.1		GAM
Europium 154	15585-10-1	12	0.59		0.1		GAM
Radium 226	13982-67-7	0.57	0.33				GAM
Thorium 228	14274-82-9	0.80	0.31				GAM
Thorium 232	7440-29-1	0.74	0.57				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0082

N210152-03

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HG4

SDG	7117	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N210152-03	Client sample id	B07HG4
Dept sample id	7117-003	Matrix	SOIL
Received	10/16/92	Collected	10/13/92
		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	5.2	5.0	6	10	U	80A
Gross Beta	Beta	29	4.8	5	10		80B
Uranium 233/234		0.35	0.14	0.1	0.3		U
Uranium 235	15117-96-1	0.016	0.032	0.1	0.3	U	U
Uranium 238	7440-61-1	0.54	0.17	0.1	0.3		U
Plutonium 238	13981-16-3	0	0.010	0.03	0.05	U	PU
Plutonium 239/240		0.070	0.025	0.02	0.05		PU
Americium 241	14596-10-2	0.047	0.029	0.04	0.05	J	AM
Strontium 90	10098-97-2	5.4	1.2	1	1		Y
Carbon 14	14762-75-5	1.9	5.6	9	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	13	0.94				GAM
Iron 59		U		0.5	0.05	U	GAM
Chromium 51	14392-02-0	U		4		U	GAM
Cobalt 60	10198-40-0	0.58	0.081		0.05		GAM
Zinc 65	17982-39-3	U		0.3		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	3.5	0.13		0.05		GAM
Europium 152	14683-23-9	4.3	0.20		0.1		GAM
Europium 154	15585-10-1	0.74	0.18		0.1		GAM
Radium 226	13982-67-7	0.42	0.11				GAM
Thorium 228	14274-82-9	0.64	0.071				GAM
Thorium 232	7440-29-1	0.46	0.24				GAM

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.22
Report date	02/11/93

N210152-04

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HG6

SDG 7117
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-04
Dept sample id 7117-004
Received 10/16/92
Client sample id B07HG6
Matrix SOIL
Collected 10/13/92
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	3.9	3.4	4	10	U	80A
Gross Beta	Beta	19	4.2	5	10		80B
Uranium 233/234		0.29	0.14	0.1	0.3	J	U
Uranium 235	15117-96-1	0.085	0.068	0.1	0.3	U	U
Uranium 238	7440-61-1	0.20	0.11	0.1	0.3	J	U
Plutonium 238	13981-16-3	-0.013	0.020	0.05	0.05	U	PU
Plutonium 239/240		0.005	0.010	0.02	0.05	U	PU
Americium 241	14596-10-2	-0.003	0.028	0.06	0.05	U	AM
Strontium 90	10098-97-2	0.51	0.41	1	1	U	Y
Carbon 14	14762-75-5	-3.2	5.3	9	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	9.6	1.6				GAM
Iron 59		U		0.8	0.05	U	GAM
Chromium 51	14392-02-0	U		6		U	GAM
Cobalt 60	10198-40-0	U		0.1	0.05	U	GAM
Zinc 65	17982-39-3	U		0.3		U	GAM
Ruthenium 106	13967-48-1	U		1		U	GAM
Cesium 134	17967-70-9	U		0.1		U	GAM
Cesium 137	10045-97-3	U		0.1	0.05	U	GAM
Europium 152	14683-23-9	U		0.2	0.1	U	GAM
Europium 154	15585-10-1	U		0.1	0.1	U	GAM
Radium 226	13982-67-7	U		0.3		U	GAM
Thorium 228	14274-82-9	0.60	0.21				GAM
Thorium 232	7440-29-1	U		0.5		U	GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0084

N210152-05

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HG7

SDG 7117
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-05
Dept sample id 7117-005
Received 10/16/92
Client sample id B07HG7
Matrix SOIL
Collected 10/14/92
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	7.7	4.7	5	10	J	80A
Gross Beta	Beta	16	4.4	6	10		80B
Uranium 233/234		0.38	0.18	0.1	0.3		U
Uranium 235	15117-96-1	0	0.034	0.1	0.3	U	U
Uranium 238	7440-61-1	0.44	0.18	0.1	0.3		U
Plutonium 238	13981-16-3	0.028	0.029	0.05	0.05	U	PU
Plutonium 239/240		0.011	0.014	0.03	0.05	U	PU
Americium 241	14596-10-2	0.005	0.014	0.03	0.05	U	AM
Strontium 90	10098-97-2	0.88	0.39	1	1	U	Y
Carbon 14	14762-75-5	-5.9	5.5	9	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	13	0.91				GAM
Iron 59		U		0.4	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	U		0.04	0.05	U	GAM
Europium 152	14683-23-9	U		0.08	0.1	U	GAM
Europium 154	15585-10-1	U		0.05	0.1	U	GAM
Radium 226	13982-67-7	0.44	0.080				GAM
Thorium 228	14274-82-9	0.65	0.051				GAM
Thorium 232	7440-29-1	0.74	0.20				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0085

N210152-07

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HG9

SDG 7117
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-07
Dept sample id 7117-007
Received 10/26/92

Client sample id B07HG9
Matrix SOIL
Collected 10/20/92
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	2.8	6.1	9	10	U	80A
Gross Beta	Beta	15	4.1	5	10		80B
Uranium 233/234		0.54	0.20	0.1	0.3		U
Uranium 235	15117-96-1	0.094	0.076	0.1	0.3	U	U
Uranium 238	7440-61-1	0.43	0.16	0.1	0.3		U
Plutonium 238	13981-16-3	0.002	0.017	0.04	0.05	U	PU
Plutonium 239/240		0.011	0.013	0.02	0.05	U	PU
Americium 241	14596-10-2	-0.005	0.007	0.02	0.05	U	AM
Strontium 90	10098-97-2	0.24	0.36	1	1	U	Y
Carbon 14	14762-75-5	-4.7	4.6	8	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	9.9	0.65				GAM
Iron 59		U		0.2	0.05	U	GAM
Chromium 51	14392-02-0	U		2		U	GAM
Cobalt 60	10198-40-0	U		0.04	0.05	U	GAM
Zinc 65	17982-39-3	U		0.1		U	GAM
Ruthenium 106	13967-48-1	U		0.3		U	GAM
Cesium 134	17967-70-9	U		0.04		U	GAM
Cesium 137	10045-97-3	0.20	0.039		0.05		GAM
Europium 152	14683-23-9	0.29	0.062		0.1		GAM
Europium 154	15585-10-1	U		0.1	0.1	U	GAM
Radium 226	13982-67-7	0.42	0.067				GAM
Thorium 228	14274-82-9	0.69	0.068				GAM
Thorium 232	7440-29-1	0.57	0.14				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

N210152-08

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HH1

SDG 7117
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-08
Dept sample id 7117-008
Received 10/26/92
Client sample id B07HH1
Matrix SOIL
Collected 10/21/92
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	5.0	3.8	4	10	J	80A
Gross Beta	Beta	15	4.0	5	10		80B
Uranium 233/234		0.34	0.14	0.1	0.3		U
Uranium 235	15117-96-1	0.020	0.041	0.2	0.3	U	U
Uranium 238	7440-61-1	0.42	0.18	0.1	0.3		U
Plutonium 238	13981-16-3	0.004	0.036	0.06	0.05	U	PU
Plutonium 239/240		0.004	0.014	0.03	0.05	U	PU
Americium 241	14596-10-2	0	0.014	0.03	0.05	U	AM
Strontium 90	10098-97-2	0.025	0.31	1	1	U	Y
Carbon 14	14762-75-5	-1.2	5.2	9	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	9.5	1.7				GAM
Iron 59		U		0.7	0.05	U	GAM
Chromium 51	14392-02-0	U		5		U	GAM
Cobalt 60	10198-40-0	U		0.1	0.05	U	GAM
Zinc 65	17982-39-3	U		0.3		U	GAM
Ruthenium 106	13967-48-1	U		1		U	GAM
Cesium 134	17967-70-9	U		0.1		U	GAM
Cesium 137	10045-97-3	0.64	0.14		0.05		GAM
Europium 152	14683-23-9	U		0.2	0.1	U	GAM
Europium 154	15585-10-1	U		0.1	0.1	U	GAM
Radium 226	13982-67-7	0.39	0.21				GAM
Thorium 228	14274-82-9	0.50	0.17				GAM
Thorium 232	7440-29-1	0.45	0.38				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0087

N210152-09

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HH2

SDG 7117
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-09
Dept sample id 7117-009
Received 10/26/92

Client sample id B07HH2
Matrix SOIL
Collected 10/21/92
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	2.9	4.0	5	10	U	80A
Gross Beta	Beta	17	4.6	6	10		80B
Uranium 233/234		0.44	0.15	0.09	0.3		U
Uranium 235	15117-96-1	0.028	0.028	0.1	0.3	U	U
Uranium 238	7440-61-1	0.33	0.12	0.09	0.3		U
Plutonium 238	13981-16-3	0.006	0.051	0.1	0.05	U	PU
Plutonium 239/240		0.18	0.067	0.05	0.05		PU
Americium 241	14596-10-2	0	0.014	0.03	0.05	U	AM
Strontium 90	10098-97-2	0.15	0.33	1	1	U	Y
Carbon 14	14762-75-5	-3.6	5.3	9	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	13	0.81				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		0.03	0.05	U	GAM
Zinc 65	17982-39-3	U		0.1		U	GAM
Ruthenium 106	13967-48-1	U		0.3		U	GAM
Cesium 134	17967-70-9	U		0.04		U	GAM
Cesium 137	10045-97-3	U		0.03	0.05	U	GAM
Europium 152	14683-23-9	U		0.07	0.1	U	GAM
Europium 154	15585-10-1	U		0.05	0.1	U	GAM
Radium 226	13982-67-7	0.49	0.062				GAM
Thorium 228	14274-82-9	0.64	0.045				GAM
Thorium 232	7440-29-1	0.68	0.17				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

p2 - 10 - 136

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: 10-12-92

Ice Chest No.: ~~HA~~ WVS 10-15-92 SMC 87 — Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.: ~~HA~~ WVS 10-15-92 252 156 8236 — Offsite Property No.: ~~HA~~ WVS 10-12-92 11/93-0-0002

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) B07HG1
- 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
- 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

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

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	Libby A. Yamamoto	10-16-92 11:00
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:

052

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

9613499.0089

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: 10-13-92

Ice Chest No.: SML 87

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.: 2521568236

Offsite Property No.: WA93-0-0002#15

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) B07HG2
- 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) B07HG4
- 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) B07HG6
- 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	10-16-92 1100
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:

053

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

9613499.0090

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector W.W. SETZER Date 10·15·92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B07HG1	S	10·12·92	0925	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST & pH 300.0/353.2;Anions (IC) F,SO4,NO3, NO2 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07HG2	S	10·13·92	0845	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST & pH 300.0/353.2;Anions (IC) F,SO4,NO3,NO2 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07HG4	S	10·13·92	1015	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST & pH 300.0/353.2;Anions (IC) F,SO4,NO3, NO2 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07HG6	S	10·13·92	1352	1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST & pH 300.0/353.2;Anions (IC) F,SO4,NO3, NO2 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				WVS

*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-KR-1 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

054

A-6000-406 (06/91) WEF060

9613499.0091

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: 10-14-92

Ice Chest No.: SML 132

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.: 2521568 71T

Offsite Property No.: UA3-0-0002 #17

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) B07HG7
- 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.W. Setzer	Received by: Kermit Blum	Date/Time: 10-19-92 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 10-17-92 @ 1345 ; opened 10-19-92 . KI

055

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

9613499.0092

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector W.W SETZER Date 10.16.92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B07H67	S	10 14.92	1940	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST & pH 300.0/353.2;Anions (IC) F,SO4,NO3, NO2 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 & pH 300.0/353.2;Anions (IC) F,SO4,NO3,NO2 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 & pH 300.0/353.2;Anions (IC) F,SO4,NO3, NO2 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 & pH 300.0/353.2;Anions (IC) F,SO4,NO3, NO2 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-KR-1 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

056

A-6000-406 (06/91) WEF060

9613499.0093

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: 10·13·92

Ice Chest No.: SML 173

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.:

ORSR # Offsite Property No.: 16425

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) B07H63
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	Kermit Blum	10-19-92 1030
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:

057

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

9613499.0094

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector _____ Date _____

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B07HG3	* SEE NOTE S	10-13-92	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
				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~~ WVS 10-15-92 RADIOACTIVE SAMPLE

055

A-6000-406 (06/91) WEF060

9613499.0095

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: 10-20-92

Ice Chest No.: SML 1000

Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.: 2521568401

Offsite Property No.: WA93-0-0002 #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) B07H69
- 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~~

WWS

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~~

4) 3,40mL aG:CLP;VOA **

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: W.W. Setzer	Received by: Kermit Blum	Date/Time: 10-26-92 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 10-24-92; opened 10-26-92 · KB

** ID for these is B07HH3 · KB

059

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

9613499.0096

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: 10-21-92

Ice Chest No.: SML 1000 — Field Logbook No.: EFL-1051

Bill of Lading/Airbill No.: 2521568401 — Offsite Property No.: W93-0-00021

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) B0TNH1
- 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) B0TNH2
- 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	10-26-92 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 10-24-92 ; opened 10-26-92 KB

060

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

9613499.0097

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector _____ Date _____

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B07HG9	S	10-20-92	0955	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST & pH 300.0/353.2;Anions (IC) F,SO4,NO3, NO2 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07HH1	S	10-21-92	1252	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST & pH 300.0/353.2;Anions (IC) F,SO4,NO3,NO2 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07HH2		10-21-92	1405	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST & pH 300.0/353.2;Anions (IC) F,SO4,NO3, NO2 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 & pH 300.0/353.2;Anions (IC) F,SO4,NO3, NO2 1-1000ml G ~~Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241~~
B07HH3	W	10-22-92	1022	3, 40ml aG: CLP; VOA

*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-KR-1 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

0E1

A-6000-406 (06/91) WEF060

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 10-068

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : October 26, 1992

1.0 DESCRIPTION OF CASE :

Two water samples and 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	pH
B07HH4	A2-10-068-01A	V	WATER	7
B07HH4 MS	A2-10-068-01B	V	WATER	7
B07HH4 MSD	A2-10-068-01C	V	WATER	7
B07HH4	A2-10-068-01D	SV & P	WATER	
B07HH4 MS	A2-10-068-01E	SV & P	WATER	
B07HH4 MSD	A2-10-068-01F	SV & P	WATER	
B07HG9	A2-10-068-02A	V	SOIL	
B07HG9 MS	A2-10-068-02B	V	SOIL	
B07HG9 MSD	A2-10-068-02C	V	SOIL	
B07HG9	A2-10-068-02D	SV & P	SOIL	
B07HH1	A2-10-068-03A	V	SOIL	
B07HH1	A2-10-068-03B	SV & P	SOIL	
B07HH1 MS	A2-10-068-03C	SV	SOIL	
B07HH1 MSD	A2-10-068-03D	SV	SOIL	
B07HH2	A2-10-068-04A	V	SOIL	
B07HH2	A2-10-068-04B	SV & P	SOIL	
B07HH2 MS	A2-10-068-04C	P	SOIL	
B07HH2 MSD	A2-10-068-04D	P	SOIL	
B07HH3	A2-10-068-05A	V	WATER	7

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

The samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL WATER :

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.

LOW LEVEL SOIL :

The samples were analyzed by heated purge method 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 WATER :

The samples were extracted and analyzed within the CLP SOW holding times. Sample B07H44MSD had a spike recovery for 4-Nitrophenol 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.

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. Although the spike recoveries of 1,4-Dichlorobenzene and 1,2,4-Trichlorobenzene in samples B07HH1MS and B07HH1MSD were within the limits, the %RPD was above the limit for 1,4-Dichlorobenzene at 29% and for Trichlorobenzene at 24%. In accordance with protocol, no further action was required.

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

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 11/03/92 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 WATER :

The samples were extracted and analyzed within the CLP SOW holding times. Method Blank PBLK1026C1 had TCX and DCB surrogate recoveries below the advisory QC limits on both columns. In accordance with protocol, no further action was required.

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

LOW LEVEL SOIL :

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

All of the QC results were within the limits specified in 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

Widayati
Wida Ang
Organics Supervisor

9613499.0101

000005

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21103R14

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. 5 Date Analyzed: 11/03/92

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	12	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	4	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

9613499.0102

000006
EPA SAMPLE NO.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B07HG9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21103R14

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. 5 Date Analyzed: 11/03/92

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 HYDROCARBON	6.97	5	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21103R17

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. 3 Date Analyzed: 11/03/92

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	12	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

9613499.0104

000008
EPA SAMPLE NO.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B07HH1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21103R17

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. 3 Date Analyzed: 11/03/92

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 ALKENE	28.47	44	J

9613499.0105

000009

EPA SAMPLE NO.

B07HH2

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21103R18

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. 2 Date Analyzed: 11/03/92

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	19	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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: B07HH2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21103R18

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. 2 Date Analyzed: 11/03/92

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 ALKENE	28.42	20	J

9613499.0107

009011

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21030R06

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. ____ Date Analyzed: 10/30/92

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/L

CAS NO.	COMPOUND		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	10	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

9613499.0108

000012

EPA SAMPLE NO.

B07HH3

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21030R06

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. ____ Date Analyzed: 10/30/92

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/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21030R03

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. ____ Date Analyzed: 10/30/92

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/L

CAS NO.	COMPOUND		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	10	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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07HH4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21030R03

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. ____ Date Analyzed: 10/30/92

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/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-02D

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 21104S14

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

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	840	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	840	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-02D

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 21104S14

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

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	840	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	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	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	840	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	44	BJ
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

EPA SAMPLE NO.

B07HG9

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-02D

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 21104S14

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.73	36000	BJ
2.	UNKNOWN HYDROCARBON	5.93	84000	BJ
3.	UNKNOWN HYDROCARBON	6.70	5200	BJ
4.	UNKNOWN HYDROCARBON	6.87	590	BJ
5.	UNKNOWN KETONE	7.10	280	BJ
6.	UNKNOWN COMPOUND	21.00	660	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-03B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21104S15

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3

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	810	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	810	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	810	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	810	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-03B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21104S15

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	810	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	80	J
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	810	U
534-52-1	4,6-Dinitro-2-methylphenol	810	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	810	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

9613499.0116

1F

EPA SAMPLE NO.

B07HH1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-03B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21104S15

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.72	35000	BJ
2.	UNKNOWN HYDROCARBON	5.93	77000	BJ
3.	UNKNOWN HYDROCARBON	6.70	4600	BJ
4.	UNKNOWN HYDROCARBON	6.88	140	J
5.	UNKNOWN KETONE	7.10	200	BJ
6.	UNKNOWN ALCOHOL	8.17	200	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-04B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21104S18

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

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	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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-04B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21104S18

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

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	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	330	U
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

1F

EPA SAMPLE NO.

B07HH2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-04B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21104S18

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.75	41000	BJ
2.	UNKNOWN HYDROCARBON	5.97	87000	BJ
3.	UNKNOWN HYDROCARBON	6.25	300	J
4.	UNKNOWN HYDROCARBON	6.73	4900	BJ
5.	UNKNOWN KETONE	7.13	200	BJ

9613499.0120

000024

EPA SAMPLE NO.

B07HH4

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21104S03

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/28/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21104S03

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/28/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	74	
218-01-9	Chrysene	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

B07HH4

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21104S03

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/28/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-02D

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

% Moisture: 5 decanted: (Y/N) N Date Received: 10/26/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/29/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/06/92

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	3.4	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

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-03B

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

% Moisture: 3 decanted: (Y/N) N Date Received: 10/26/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/29/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/05/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.3 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

9613499.0125

000029

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-04B

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

% Moisture: 2 decanted: (Y/N) N Date Received: 10/26/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/29/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/05/92

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	3.3	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

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/26/92

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 10/28/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/05/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

9613499.0127

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

SUMMARY DATA REPORT

JAN 1993
RECEIVED
OSM DMO

December 28, 1992

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

Quality Control Narrative

Scope
One (1) water sample was submitted to TMA/Skinner & Sherman Laboratories, Inc. on October 27, 1992 from TMA/Norcal. The sample was analyzed for the USEPA CLP metals and cyanide. The analysis was performed under TMA/Skinner and Sherman work order S210463.

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 sample with the following exceptions;

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

The lead laboratory duplicates exceeded the control limit requirements.

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

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

David N. Peterson
Assistant Laboratory Manager

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B07HH4

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

Lab Code: SKINER Case No.: N2-10-213SAS No.: SDG No.: B07HH4

Matrix (soil/water): WATER Lab Sample ID: 10463-01S

Level (low/med): LOW Date Received: 10/27/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14.7	U		P
7440-36-0	Antimony	14.8	B		P
7440-38-2	Arsenic	2.2	U		F
7440-39-3	Barium	23.5	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	16700			P
7440-47-3	Chromium	2.6	U		P
7440-48-4	Cobalt	1.3	U		P
7440-50-8	Copper	1.9	U		P
7439-89-6	Iron	778			P
7439-92-1	Lead	5.9		*	F
7439-95-4	Magnesium	3290	B		P
7439-96-5	Manganese	6.4	B		P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	2.6	U		P
7440-09-7	Potassium	968	B		P
7782-49-2	Selenium	4.9	B	SN	F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	2190	B		P
7440-28-0	Thallium	1.7	U		F
7440-62-2	Vanadium	2.5	U		P
7440-66-6	Zinc	5.7	U		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

002

TMA/Skinner & Sherman Labs SAMPLE LOG-IN

WORKORDER S210463 CLIENT Hanford Nor No. SAMPLES:

PROTCL CLP TURNARND 33 Day 1 (Soil) (Water) (Specify Other)

COOLER TEMP: 5 oC, or NA

CUSTODIAN B Powell SDG/BATCH N/A

CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N210213

SHIPER & # Fed Ex PO/CONTRACT# "

TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT D. Sanchez

CHAIN OF CUSTODY: PRESENT/ABSENT/NA, # N/A COMMENTS: none

SAMPLE CONTAINERS-INTACT/BROKEN COMMENTS

CLIENT COMMENT? YES/NO

SAMPLE LABELS AGREE WITH CHAIN OF CUSTODY INFO? YES/NO (COMMENT)

CLIENT PAPERWORK AGREES WITH SAMPLES & COC? YES /NO (COMMENT)

SHIPMENT DATES 10-27-92

LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

UNFILTERED

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UI
1	B07HH4	water	10/27/92	2.05	DS TM/CN	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

Samples are from site known to have Rad-Contamination: YES ✓ NO

Samples have detectable amounts of Radioactive Material: YES NO ✓

SUBCONTRACT: YES/NO, TO: DATE: 164

REVIEWED

Compute 10/28/92

* EPA/CLP required Rev 1.6 PAGE:

9615499.0150

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-213

RCVD: 10/26/92 DUE: 11/25/92 10/26/92 15:58:14 KEEP: 02/23/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	B07HH4	S&S	WH007	WH008	WH010	WH011	WH137
01F-W	B07HH4 MS	S&S	WH007	WH008	WH010	WH011	WH137
01G-W	B07HH4 DUP	S&S	WH007	WH008	WH010	WH011	WH137
01H-W	L C S	S&S	WH007	WH008	WH010	WH137	

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
yamamoto	10-26-92	SKINNER	10-26-92	[illegible]	10/27/92

9613499.0131

TMA

SUMMARY DATA REPORT

WESTINGHOUSE HANFORD COMPANY

JAN 1993
RECEIVED
OSM DMO

Results of Analyses For:

ORGANICS & GENERAL CHEMISTRY
Case No. 10-068
(TMA/ARLI Work Order # A2-10-068)

METALS
Case No. N2-10-213
(TMA/Skinner & Sherman W.O. # S2-10-463 & S2-10-464)

December 30, 1992

TMA Master Work Orders N2-10-213

GENERAL CHEMISTRY RESULTS

CASE NO. 10-068

Water and Soil Sample #

B07HH4 B07HG9 B07HH1
B07HH2

CASE NARRATIVE

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

Ernesto Vazquez

Ernesto Vazquez

TMA Inc. REPORT Work Order # A2-10-068

Received: 10/26/92 12/17/92 15:14:12

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: Ernest Vaiyes
CONTACT: EVV CIH

CLIENT: WHC SAMPLES: 7
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: Liquid/Solid
P.O. #: N2-10-213/215-SU-AR
INVOICE: under separate cover

SAMPLE IDENTIFICATION		TEST CODES and NAMES used on this workorder	
01	B07HH4	BNCLPS	CLP Semivol. Sol. - WH016
01	B07HH4 MS	BNCLPW	CLP Semivol. Water - WH020
01	B07HH4 MSD	IC AN	Anions Extraction Solids
01	B07HH4	PECLPL	CLP Pesticides Liq.-WH019
01	B07HH4 MS	PECLPS	CLP Pest\PCBs Soil - WH015
01	B07HH4 MSD	PH SOL	pH of Solids - WH217
01	B07HH4	VOCLPL	CLP Volatile Org.Liq.
01	B07HH4 MS	VOCLPS	CLP Vol. Org.Soils - WH014
01	B07HH4 Duplicate	WCCLPL	Anions & Wet Chem. - WH043
01	B07HH4	WCCLPS	Anions in Solids - WH232
01	B07HH4 MS	WCL L	Chloride - WH120
01	B07HH4 Duplicate	WCQCD	Quality Control Summary
01	B07HH4	WCQCS	Quality Control Summary
01	B07HH4 MS	WF L	Fluoride in Water
01	B07HH4 Duplicate	WF S	Fluoride in Solids
01	B07HH4	WMOIST	Moisture
01	B07HH4 Duplicate	WNH3 L	Ammonia in Water - WH140
02	B07HG9	WPH L	pH of Liquid - WH121
02	B07HG9 MS	WPO4 L	Phosphate in Liquids
02	B07HG9 MSD	WSO4 L	Sulfate (in Waters)
02	B07HG9	WSO4 S	Sulfate (in Solids)
02	B07HG9 MS	WSULFI	Sulfide - WH114
03	B07HH1	W ALK	Alkalinity - WH131
03	B07HH1 MS	W COD	COD Water - WH132
03	B07HH1 MSD	W COND	Conductivity-Water WH135
03	B07HH1	W TDS	Dissolved Solids WH128

TMA Inc. REPORT Work Order # A2-10-068

Received: 10/26/92 12/17/92 15:14:12

	SAMPLE IDENTIFICATION
03	B07HH1 Duplicate
04	B07HH2
04	B07HH2 MS
04	B07HH2 MSD
04	B07HH2
05	B07HH3
06	Wet Chemistry Blank
07	Wet Chemistry Blank

TMA Inc. REPORT Work Order # A2-10-068

Received: 10/26/92 Results by Sample

SAMPLE ID B07NN4 FRACTION 01G TEST CODE WCCLPL NAME Anions & Wet Chem. - WN043

Date & Time Collected 10/22/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	1.8	mg/L	0.2
Fluoride	300.0	0.2	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	150.1	7.9	pH	0.1
Sulfate	300.0	11	mg/L	1
Elect. Conductivity	120.1	116	umho/cm	6

FORM I

TMA Inc. REPORT Work Order # A2-10-068

Received: 10/26/92 Results by Sample

SAMPLE ID B07MM4 FRACTION 01J TEST CODE WCCLPL NAME Anions & Wet Chem. - WM043

Date & Time Collected 10/22/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	376.1	<1	mg/L	1

FORM I

TMA Inc. REPORT Work Order # A2-10-068

Received: 10/26/92

Results by Sample

SAMPLE ID B07HH4 FRACTION 01M TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 10/22/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.0	<30	mg/L	30

FORM I

TMA Inc. REPORT Work Order # A2-10-068

Received: 10/26/92 Results by Sample

SAMPLE ID B07MM4 FRACTION 01P TEST CODE WCCLPL NAME Anions & Wet Chem. - WR043

Date & Time Collected 10/22/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	48	mg/L	2
Tot. Dissolved Solids	160.1	65	mg/L	5

FORM I

TMA Inc. REPORT Work Order # A2-10-068

Received: 10/26/92

Results by Sample

SAMPLE ID B07NG9 FRACTION 02E TEST CODE WCCLPS NAME Anions in Solids - WN232

Date & Time Collected 10/20/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	1.1	mg/Kg	0.2
Sulfate	300.0	8	mg/Kg	2

FORM I

TMA Inc. REPORT Work Order # A2-10-068

Received: 10/26/92 Results by Sample

SAMPLE ID B07MM1 FRACTION 03E TEST CODE WCCLPS NAME Anions in Solids - VM232

Date & Time Collected 10/21/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.6	mg/Kg	0.2
Sulfate	300.0	13	mg/Kg	2

FORM I

9613499.0141

000019

TMA Inc. REPORT Work Order # A2-10-068

Received: 10/26/92

Results by Sample

SAMPLE ID B07HH2 FRACTION 04E TEST CODE WCCLPS NAME Anions in Solids - WH232

Date & Time Collected 10/21/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.6	mg/Kg	0.2
Sulfate	300.0	10	mg/Kg	2

FORM I

9613499.0142

000002

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-213

RCVD: 10/26/92 DUE: 11/25/92 10/26/92 15:58:13 KEEP: 02/23/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY
01A-W	B07HH4	ARLI	WH018 WH019 WH020 WH043 WH114 WH121 WH122 WH128** WH131 WH132 WH140
01C-W	B07HH4 MS	ARLI	WH018 WH019 WH020 WH043 WH114
01D-W	B07HH4 MSD	ARLI	WH018 WH019 WH020
01E-W	B07HH4 DUP	ARLI	WH043 WH114 WH121 WH122 WH128 WH131 WH132 WH140
02A-W	B07HH3	ARLI	WH018

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yasmanuate	10-26-92	FEDEX	10-26-92	[illegible signature]	10/27/92

9613499.0143

000003

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-215

RCVD: 10/26/92 DUE: 11/25/92 10/26/92 16:06:12 KEEP: 02/23/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01A-S	B07HH1	ARLI	WH014	WH015	WH016	WH217	WH232
02A-S	B07HH2	ARLI	WH014	WH015	WH016	WH217	WH232
03A-S	B07H69	ARLI	WH014	WH015	WH016	WH217	WH232
03C-S	B07H69 MS	ARLI	WH014	WH015	WH016	WH232	
03D-S	B07H69 MSD	ARLI	WH014	WH015	WH016		
03E-S	B07H69 DUP	ARLI	WH217	WH232			

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
[illegible]	10-26-92	ARLI	[illegible]	[illegible]	10/27/92

9613499.0144

000004

SAMPLE LOG-IN SHEET

LAB NAME: TMA/ARLI Trudy Golub

PAGE: 1 OF 1

RECEIVED BY (PRINT NAME): Trudy Golub

LOG-IN-DATE: 10/27/92

RECEIVED BY (SIGNATURE): Trudy Golub

CASE NUMBER:

SAMPLE DELIVERY GROUP NO.:

SAS NUMBER:

REMARKS: WHC 33

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.: 5188040045

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: 10/27/92

12. Temp of ice chest 2 °C

13. Time Recieved: 0945

SAMPLE TRANSFER

Fraction:

Area #:

By:

On:

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B07K76	A2-10-069-03	
	B07K80	A2-10-069-04	
	B07H69	A2-10-068-02	
	B07K81	A2-10-069-05	
	B07K61	A2-10-069-01	
	B07KD1	A2-10-069-07	
	B07K85	A2-10-069-06	
	B07HHK1	A2-10-068-01	
	B07KD5	A2-10-069-08	

* Contact SMO and attach record of resolution

Reviewed By:

Date:

Logbook No.:

Logbook Page No.:

FORM DC-1

DMC2/LOGIN.XLS

961349.0145

000002

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI

PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): Judy Golub

LOG-IN-DATE : 10/27/92

RECEIVED BY (SIGNATURE): Judy Golub

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

REMARKS: SMC-119

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.: 5188040015
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: 10/27/92
12. Temp of ice chest 2 °C
13. Time Recieved: 0945

SAMPLE TRANSFER

Fraction:
Area #:
By:
On:

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B07K76	A2-10-069-03	
	B07K61	A2-10-069-01	
	B07HH4	A2-10-068-01	
	B07K81	A2-10-069-05	
	B07HH3	A2-10-068-05	
	B07KD1	A2-10-069-07	

* Contact SMO and attach record of resolution

Reviewed By:

Date:

Logbook No.:

Logbook Page No.:

FORM DC-1

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI

PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): Trudy Golub

LOG-IN-DATE : 10/27/92

RECEIVED BY (SIGNATURE): Trudy Golub

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

REMARKS: SMC 249

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.: 5188040045
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: 10/27/92
12. Temp of ice chest 2 °C
13. Time Recieved: 0945

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B07K61	A2-10-069-01	
	B07K65	A2-10-069-02	
	B07HH4	A2-10-068-01	
	B07KD1	A2-10-069-07	
	B07K81	A2-10-069-05	
	B07HH1	A2-10-068-03	
	B07HH2	A2-10-068-04	
	B07HG9	A2-10-068-02	

SAMPLE TRANSFER

Fraction:
Area #:
By:
On:

* Contact SMO and attach record of resolution

Reviewed By:
Date:
Logbook No.:
Logbook Page No.:

FORM QC-1

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 10/27/92 COMPANY NORCAL (WHC) OTHER ORD # 5188040045

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 uCi/g
Background		31.0			0				
Consistency		7,510	0.2899		5,008	0.1841			
Smears: WHC 33		50.0			2.0			NONE	
SML-249 70 PoC		52.0			4.0			NONE	
SML 119		34.0			2.0			NONE	
Reported (WHC)	17 samples such				< 50		pCi/gram		

Comments:

All OK ✓ Approved [illegible]

Not OK Date 10/27/92

9613499.0148

000003

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER

518804004

518804004 5

RECIPIENT'S COPY

1 Date 10-26-92

From (Your Name) Please Print: SAMC

Your Phone Number (Very Important): (310) 423-

Company: MICHAEL

Department/Floor No.

Street Address: 2300 WILSHIRE AVE

City: MICHAEL State: CA ZIP Required: 90064

2 To (Recipient's Name) Please Print: SAMMY

Recipient's Phone Number (Very Important): ( )

Company: TMA / ARC

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

3 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

4 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 or 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 (Available 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 slower 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 3 262 | Total

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

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

Chg. 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 Other 1 Other 2 Total Charges

REVISION DATE 2 PART #137204 F FORMAT #126

126

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9613499.0149

TMA

Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

QUALITY ENVIRONMENTAL SERVICES

JAN 1993
RECEIVED
OSM DMO

Report for

TMA/Norcal

WORK ORDER #S210456

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

9613499.0150

 Skinner&Sherman REPORT Work Order # S2-10-456

Received: 10/27/92 12/23/92 15:16:09

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 N2-10-215
TAKEN BY CLIENT
TRANS FED EX
TYPE SOLID
P.O. # N2-10-215
INVOICE under separate cover

SAMPLE IDENTIFICATION

01 B07HH1
02 B07HH2
03 B07HG9
03 B07HG9 DUPL
03 B07HG9 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 satisf. 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 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.

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

9613499.0151

 Skinner&Sherman REPORT Work Order # S2-10-456

Received: 10/27/92 Results by Sample

SAMPLE ID B07NH1 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 10/20/92 Category SOLID

NO3NO2 3.03
mg N/kg

SAMPLE ID B07NH2 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 10/20/92 Category SOLID

NO3NO2 <2.45
mg N/kg

SAMPLE ID B07NG9 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 10/20/92 Category SOLID

NO3NO2 <2.46
mg N/kg

SAMPLE ID B07NG9 DUPL SAMPLE # 03 FRACTIONS: B
Date & Time Collected 10/20/92 Category SOLID

NO3NO2 <2.45
mg N/kg

SAMPLE ID B07NG9 SPIKE SAMPLE # 03 FRACTIONS: C
Date & Time Collected 10/20/92 Category SOLID

NO3NO2 19.9
mg N/kg

SAMPLE ID LCSS SAMPLE # 04 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 associated submitted invoice is satisfi Expert witness services shall be available in conjuction 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. v 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

9613499.0152

Received: 10/27/92 Test Methodology

TEST CODE NO3NO2 NAME Nitrate Plus Nitrite

Methods for Chemical Analysis of Water and Wastes
EPA - 600/4-79-020 March 1979 Method 353.2 (modified)

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. w
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

TMA/Skinner & Sherman Labs SAMPLE LOG-IN

WORKORDER S210456 CLIENT Hanford Nor No. SAMPLES:

PROTCL CLP TURNARND 33 Days 3 (Soil) (Water) (Specify Other)

COOLER TEMP: 5 oC, or NA

CUSTODIAN B. Pounds SDG/BATCH N/A

CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N210215

SHIPER & # Fed Ex PO/CONTRACT# ↓

TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT D Sanchez

CHAIN OF CUSTODY: PRESENT/ABSENT/NA,# N/A COMMENTS: None

SAMPLE CONTAINERS-INTACT/BROKEN COMMENTS

CLIENT COMMENT? YES/NO

SAMPLE LABELS AGREE WITH CHAIN OF CUSTODY INFO? YES/NO (COMMENT)

CLIENT PAPERWORK AGREES WITH SAMPLES & COC? YES/NO (COMMENT)

SHIPMENT DATES 10-27-92

LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME
1	B07HH1	Solid	10-27-92	N/A	NO3 NO2	
2	B07HH2	↓	↓			
3	B07H69				D.S ↓	
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

Samples are from site known to have Rad-Contamination: YES ___ NO ✓

Samples have detectable amounts of Radioactive Material: YES ___ NO ✓

SUBCONTRACT: YES/NO, TO: DATE:

REVIEWED Complete 10/28/92

* EPA/CLP required Rev 1.6 PAGE: B P

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-215

RCVD: 10/26/92 DUE: 11/25/92 10/26/92 16:06:13 KEEP: 02/23/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-S	B07HH1	S&S	WH001	WH002	WH004	WH005	WH233
02B-S	B07HH2	S&S	WH001	WH002	WH004	WH005	WH233
03B-S	B07H69	S&S	WH001	WH002	WH004	WH005	WH233
03F-S	B07H69 MS	S&S	WH001	WH002	WH004	WH005	WH233
03G-S	B07H69 DUP	S&S	WH001	WH002	WH004	WH005	WH233
03H-S	L C S	S&S	WH001	WH002	WH004	WH005	WH233

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	10-26-92	SKINNER	10-26-92	[illegible]	10/27/92

9613499.0155

TMA

SUMMARY DATA REPORT

WESTINGHOUSE HANFORD COMPANY

JAN 1993
RECEIVED
OSM DMO

Results of Analyses For:

ORGANICS & GENERAL CHEMISTRY
Case No. 10-068
(TMA/ARLI Work Order # A2-10-068)

METALS
Case No. N2-10-215
(TMA/Skinner & Sherman W.O. # S2-10-455 & S2-10-456)

December 30, 1992

TMA Master Work Orders N2-10-215

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

December 28, 1992

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 October 27, 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 S210455.

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, lead, manganese, mercury, and selenium digestion spike recovery exceeded the control limit requirements.

The lead and vanadium 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
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B07HG9

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

Lab Code: SKINER Case No.: N2-10-215SAS No.: SDG No.: B07HG9

Matrix (soil/water): SOIL Lab Sample ID: 10455-03S

Level (low/med): LOW Date Received: 10/27/92

% Solids: 87.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6420			P
7440-36-0	Antimony	3.6	U	N	P
7440-38-2	Arsenic	3.2			F
7440-39-3	Barium	69.6			P
7440-41-7	Beryllium	0.77	B		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	7330			P
7440-47-3	Chromium	8.0			P
7440-48-4	Cobalt	11.5			P
7440-50-8	Copper	21.2			P
7439-89-6	Iron	23200			P
7439-92-1	Lead	14.8		N*	F
7439-95-4	Magnesium	5170			P
7439-96-5	Manganese	359		N	P
7439-97-6	Mercury	0.05	U	N	CV
7440-02-0	Nickel	9.2			P
7440-09-7	Potassium	1230			P
7782-49-2	Selenium	0.88	U	N	F
7440-22-4	Silver	0.54	U		P
7440-23-5	Sodium	218	B		P
7440-28-0	Thallium	0.29	U	W	F
7440-62-2	Vanadium	49.9		*	P
7440-66-6	Zinc	52.3			P
	Cyanide	0.54	U		CA

Color Before: GREY Clarity Before: Texture: COARSE

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

2

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B07HH1

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

Lab Code: SKINER Case No.: N2-10-215SAS No.: SDG No.: B07HG9

Matrix (soil/water): SOIL Lab Sample ID: 10455-01S

Level (low/med): LOW Date Received: 10/27/92

% 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	6110			P
7440-36-0	Antimony	3.5	U	N	P
7440-38-2	Arsenic	1.8	B		F
7440-39-3	Barium	67.1			P
7440-41-7	Beryllium	0.08	U		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	3640			P
7440-47-3	Chromium	10.9			P
7440-48-4	Cobalt	6.9	B		P
7440-50-8	Copper	20.7			P
7439-89-6	Iron	13400			P
7439-92-1	Lead	3.5		SN*	F
7439-95-4	Magnesium	3900			P
7439-96-5	Manganese	246		N	P
7439-97-6	Mercury	0.05	U	N	CV
7440-02-0	Nickel	10.8			P
7440-09-7	Potassium	1110			P
7782-49-2	Selenium	0.80	U	N	F
7440-22-4	Silver	0.52	U		P
7440-23-5	Sodium	237	B		P
7440-28-0	Thallium	0.27	U	W	F
7440-62-2	Vanadium	33.1		*	P
7440-66-6	Zinc	31.2			P
	Cyanide	0.53	U		CA

Color Before: GREY Clarity Before: Texture: COARSE

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

~~002~~

003

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B07HH2

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

Lab Code: SKINER Case No.: N2-10-215SAS No.: SDG No.: B07HG9

Matrix (soil/water): SOIL Lab Sample ID: 10455-02S

Level (low/med): LOW Date Received: 10/27/92

% Solids: 85.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5740			P
7440-36-0	Antimony	3.6	U	N	P
7440-38-2	Arsenic	2.2	B		F
7440-39-3	Barium	50.9			P
7440-41-7	Beryllium	0.20	B		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	3080			P
7440-47-3	Chromium	11.3			P
7440-48-4	Cobalt	5.4	B		P
7440-50-8	Copper	11.3			P
7439-89-6	Iron	11100			P
7439-92-1	Lead	2.8		N*	F
7439-95-4	Magnesium	3660			P
7439-96-5	Manganese	210		N	P
7439-97-6	Mercury	0.05	U	N	CV
7440-02-0	Nickel	10.7			P
7440-09-7	Potassium	1060			P
7782-49-2	Selenium	0.88	U	N	F
7440-22-4	Silver	0.53	U		P
7440-23-5	Sodium	369	B		P
7440-28-0	Thallium	0.32	B		F
7440-62-2	Vanadium	26.9		*	P
7440-66-6	Zinc	27.2			P
	Cyanide	0.57	U		CA

Color Before: GREY Clarity Before: Texture: COARSE

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

004

TMA/Skinner & Sherman Labs SAMPLE LOG-IN

WORKORDER S210455 CLIENT Hanford Nor No. SAMPLES:

PROTCL CLP TURNARND 33 Day 3 (Soil) (Water) (Specify Othe

COOLER TEMP: 5 oC, or NA

CUSTODIAN B. Prowle SDG/BATCH N/A

CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N210215

SHIPER & # Fed Ex PO/CONTRACT# ↓

TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT Dr. Sanchez

CHAIN OF CUSTODY: PRESENT/ABSENT/NA, # N/A COMMENTS: none

SAMPLE CONTAINERS-INTACT/BROKEN COMMENTS

CLIENT COMMENT? YES/NO

SAMPLE LABELS AGREE WITH CHAIN OF CUSTODY INFO? YES/NO (COMMENT)

CLIENT PAPERWORK AGREES WITH SAMPLES & COC? YES /NO (COMMENT)

SHIPMENT DATES 10-27-92

LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME
1	B07HH1	Solid	10/27/92	N/A	Tm + CN	
2	B07HH2	↓	↓	↓	↓	
3	B07HG9	↓	↓	↓	D.S	
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

Samples are from site known to have Rad-Contamination: YES ✓ NO

Samples have detectable amounts of Radioactive Material: YES NO ✓

SUBCONTRACT: YES/NO, TO: DATE:

REVIEWED

Complete 10/28/92 BP

* EPA/CLP required Rev 1.6 PAGE: 163

9613499.0161

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-215

RCVD: 10/26/92 DUE: 11/25/92 10/26/92 16:06:13 KEEP: 02/23/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	- TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-S	B07HH1	S&S	WH001	WH002	WH004	WH005	WH233
02B-S	B07HH2	S&S	WH001	WH002	WH004	WH005	WH233
03B-S	B07H69	S&S	WH001	WH002	WH004	WH005	WH233
03F-S	B07H69 MS	S&S	WH001	WH002	WH004	WH005	WH233
03G-S	B07H69 DUP	S&S	WH001	WH002	WH004	WH005	WH233
03H-S	L C S	S&S	WH001	WH002	WH004	WH005	WH233

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Eyamamoto	10-26-92	SKINNER	10-26-92	[illegible]	10/27/92

9613499.0162

TMA

Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

QUALITY ENVIRONMENTAL SERVICES

JAN 1993
RECEIVED
OSM DMO

Report for

TMA/Norcal

WORK ORDER #S210464

Scientific Services Since 192

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

9613499.0163

 Skinner&Sherman REPORT Work Order # S2-10-464

Received: 10/27/92 12/11/92 13:51:03

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 N2-10-213
TAKEN BY CLIENT
TRANS FED EX
TYPE WATER
P.O. # N2-10-213
INVOICE under separate cover

SAMPLE IDENTIFICATION		TEST CODES and NAMES used on this workorder	
01	B07HH4	N03N02	Nitrate Plus Nitrite
01	B07HH4 DUPL		
01	B07HH4 SPIKE		
02	LCSW		

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. 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 invo amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. v 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

Received: 10/27/92

Results by Sample

SAMPLE ID B07HH4 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 10/22/92 Category WATER

NO3NO2 <0.25
mg N/L

SAMPLE ID B07HH4 DUPL SAMPLE # 01 FRACTIONS: B
Date & Time Collected 10/22/92 Category WATER

NO3NO2 <0.25
mg N/L

SAMPLE ID B07HH4 SPIKE SAMPLE # 01 FRACTIONS: C
Date & Time Collected 10/22/92 Category WATER

NO3NO2 1.13
mg N/L

SAMPLE ID LCSW SAMPLE # 02 FRACTIONS: A
Date & Time Collected not specified Category WATER

NO3NO2 1.92
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. w 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

9613499.0165

 Skinner&Sherman REPORT Work Order # S2-10-464

Received: 10/27/92

Test Methodology

TEST CODE NO3NO2 NAME Nitrate Plus Nitrite

Methods for Chemical Analysis of Water and Wastes
EPA - 600/4-79-020 March 1979 Method 353.2 (modified)

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 satisf
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.
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

9613999.0166

TMA/Skinner & Sherman Labs SAMPLE LOG-IN

WORKORDER S210464 CLIENT Hanford Nor No. SAMPLES:

PROTCL CLP TURNARND 33 Days / (Soil) (Water) (Specify Other)

COOLER TEMP: 5 oC, or NA

CUSTODIAN B. Pinedo SDG/BATCH N/A

CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N210213

SHIPER & # Fed Ex PO/CONTRACT# N/A

TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT D. Sanchez

CHAIN OF CUSTODY: PRESENT/ABSENT/NA, # N/A COMMENTS: none

SAMPLE CONTAINERS-INTACT/BROKEN COMMENTS

CLIENT COMMENT? YES/NO

SAMPLE LABELS AGREE WITH CHAIN OF CUSTODY INFO? YES/NO (COMMENT)

CLIENT PAPERWORK AGREES WITH SAMPLES & COC? YES/NO (COMMENT)

SHIPMENT DATES 10-27-92

LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
1	B074H4	Water	10/27/92	1.99	NO3 NO2	
2						
3						
4						
5						
6						
7						
8						
9						
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17						
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23						
24						
25						
26						
27						

Samples are from site known to have Rad-Contamination: YES ✓ NO ~~N~~ 10/28/92

Samples have detectable amounts of Radioactive Material: YES ___ NO ✓

SUBCONTRACT: YES/NO, TO: DATE:

REVIEWED

Complete - B.P. 10/28/92

* EPA/CLP required Rev 1.6 PAGE:

9613499.0167

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-213

RCVD: 10/26/92 DUE: 11/25/92 10/26/92 15:58:14 KEEP: 02/23/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	B07HH4	S&S	WH007	WH008	WH010	WH011	WH137
01F-W	B07HH4 MS	S&S	WH007	WH008	WH010	WH011	WH137
01G-W	B07HH4 DUP	S&S	WH007	WH008	WH010	WH011	WH137
01H-W	L C S	S&S	WH007	WH008	WH010	WH137	

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
yamamoto	10-26-92	SKINNER	10-26-92	[illegible]	10/27/92

9613499.0168

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

February 16, 1993

SENT BY FEDERAL EXPRESS

Ref. TMA/Norcal N2-10-224-7119

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

RECORD COPY

Dear Ms. Cooley:

Enclosed on the Summary Data Section, are the gross alpha, gross beta, ^{3}H, ^{14}C, ^{90}Sr, ^{99}Tc, isotopic uranium, isotopic plutonium, ^{241}Am, and gamma scan results for the water samples from 100-KR-1 Location we received 26 October 1992. The QA/QC results are also given in the Summary Data Section. The Summary Data Section is numbered pages 1 to 45, and the appendices are numbered pages 46 to 298.

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

FEB 1993
RECEIVED
OSM DMO

SDG 7119 Contact Dinkar P. Kharkar	Client Westinghouse Hanford Contract MBH-SVV-069262

CASE NARRATIVE

1.0 GENERAL

Water sample results from 100-KR-1 Location (TMA/Norcal Group 7119) are reported herein. TMA/Norcal Group 7119 is comprised of one sample listed on the Chain-of-Custody documents and is identified as Sample 1.

1.1 CHAINS-OF-CUSTODY

This report includes data from the sample delivered under Chain-of-Custody documents Field Logbook No. EFL-1051.

1.2 SAMPLE VOLUME

A four L, a 1 L plastic bottle, and a 250 mL glass bottle containing the sample was received for analyses.

1.3 MISSING SAMPLES

The sample were accounted for in an undamaged condition.

1.4 HOLDING TIMES

The sample was collected on 10/22/92 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 7119-2, 3, and 4.

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 nuclides were good except for ^{14}C with a recovery of 66% which did not pass the 3 σ total limit. The ^{14}C aliquot, the counting efficiency, and the blank looked good. Nothing abnormal was found. We will continue to investigate the low found/added ratio for ^{14}C.

SDG 7119 Contact Dinkar P. Kharkar	Client Westinghouse Hanford Contract MBH-SVV-069262

CASE NARRATIVE

2.1 LABORATORY CONTROL SAMPLES (cont'd)

The ^{99}Tc MDA was higher then RDL due to low chemical recovery. The ^{238}Pu MDA was higher than RDL due to slightly higher background. The analysis of ^{59}Fe was high due to the wrong reference time. The MDA was wrongly calculated at the T-Zero instead of at the time of count.

2.2 BLANKS

MDA's for all the analyses meet the RDL requirements except for ^{235}U and ^{99}Tc. The higher MDA's for ^{235}U and ^{99}Tc were due to a low chemical recovery.

2.3 REPLICATES

Results were satisfactory for all replicate analyses except for ^{90}Sr. The ^{90}Sr results of the sample and its duplicate did not agree. We checked the aliquots, the yields and did not find anything abnormal. We will continue to investigate the discrepancy. The ^{99}Tc MDA of the original sample was high due to low chemical yield. The ^{59}Fe MDA was high due to the short half life of ^{59}Fe.

3.0 ANALYTICAL NOTES

3.1 Gross Alpha Analyses: The average MDA for gross alpha was 2 $\pm$ 1 pCi/L. Positive gross alpha concentration above RDL was not found in the sample.

3.2 Gross Beta Analyses: The average MDA for gross beta was 1 $\pm$ 0 pCi/L. Positive gross beta concentration was not found in the sample.

3.3 Tritium Analyses: The average MDA for four analyses was 300 $\pm$ 100 pCi/L. Positive ^{3}H concentration was not found in the sample.

3.4 Carbon-14 Analyses: The average MDA was 40 $\pm$ 10 pCi/L. Positive ^{14}C was not found in the sample.

3.5 Strontium-90 Analyses: The average yield for four analyses was 71 $\pm$ 40%. The lowest yield was 42% and the highest was 78%. The average MDA was 1 $\pm$ 1 pCi/L. Positive ^{90}Sr concentration above RDL was not found in the sample.

001C
3/10/93

SDG 7119 Contact Dinkar P. Kharkar	Client Westinghouse Hanford Contract MBH-SVV-069262

CASE NARRATIVE

3.6 Technicium-99 Analyses: The average yield for four analyses was 35 ± 16%. The lowest yield was 28% and the highest was 46%. The average MDA was 7 ± 3 pCi/L. Positive ^{90}Sr concentration above RDL was not found in the sample. The MDA's were higher due to low chemical recoveries.

3.7 Uranium-233, 234, 234, and 238 Analyses: The average yield for four analyses was (49 ± 40%). The lowest yield was 26% and the highest was 66%. The average MDA was 0.2 ± 0.1 pCi/L. Positive concentrations of ^{234}U and ^{238}U were not found in the sample.

3.6 Plutonium-238, 239/240 Analyses: The average yield for four analyses was (55 ± 9%). The lowest yield was 49% and the highest was 58%. The average MDA was 0.03 ± 0.01 pCi/L. Positive plutonium concentration above the RDL was not found in the sample.

3.7 Americium-241 Analyses: The average yield for four analyses was (91 ± 5%). The lowest yield was 88% and the highest was 94%. The average MDA was 0.02 ± 0.01 pCi/L. Positive americium concentration above the RDL was not found in the sample.

3.8 Gamma Scan Analyses: Gamma scan analysis did not find positive concentration of gamma nuclides in the sample.

OOID
3/10/93

9613499.0172

N210224-01

TMA NORCAL
REPORTING GROUP 7119

DATA SHEET

B07HH4

SDG 7119
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210224-01
Dept sample id 7119-001
Received 10/26/92

Client sample id B07HH4
Matrix WATER
Collected 10/22/92
Chain of custody id EFL-1051

PARAMETER	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	-0.15	1.3	2	3	U	80A
Gross Beta	Beta	1.3	0.81	1	4	J	80B
Uranium 233/234		0.18	0.12	0.2	0.2	U	U
Uranium 235	15117-96-1	0.024	0.048	0.2	0.2	U	U
Uranium 238	7440-61-1	0.079	0.080	0.2	0.2	U	U
Plutonium 238	13981-16-3	0.005	0.016	0.03	0.05	U	PU
Plutonium 239/240		0	0.005	0.02	0.05	U	PU
Americium 241	14596-10-2	0.010	0.011	0.01	0.05	J	AM
Strontium 90	10098-97-2	0.14	0.23	0.9	2	U	Y
Technetium 99	14133-76-7	4.1	2.7	8	5	U	TC
Tritium	10028-17-8	29	160	300	400	U	H
Carbon 14	14762-75-5	-13	26	40	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		200		U	GAM
Iron 59		U		100	30	U	GAM
Chromium 51	14392-02-0	U		700		U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Zinc 65	17982-39-3	U		30		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Cesium 134	17967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-67-7	U		20		U	GAM
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	7440-29-1	U		50		U	GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/16/93

9613499.0173

VALIDATION SUMMARY

9613499.0174

N210152-01

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HG1

SDG 7117
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-01
Dept sample id 7117-001
Received 10/16/92
Client sample id B07HG1
Matrix SOIL
Collected 10/12/92
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	5.3	5.2	7	10	~~U~~R	80A
Gross Beta	Beta	12	4.0	5	10		80B
Uranium 233/234		0.46	0.16	0.1	0.3		U
Uranium 235	15117-96-1	0.039	0.052	0.1	0.3	U	U
Uranium 238	7440-61-1	0.32	0.13	0.08	0.3		U
Plutonium 238	13981-16-3	0.010	0.028	0.05	0.05	UJ	PU
Plutonium 239/240		0.024	0.021	0.03	0.05	UJ	PU
Americium 241	14596-10-2	0.018	0.047	0.1	0.05	~~U~~R	AM
Strontium 90	10098-97-2	-0.14	0.84	1	1	U	Y
Carbon 14	14762-75-5	-3.9	5.2	9	50	~~U~~R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	11	0.70				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		0.06	0.05	U	GAM
Zinc 65	17982-39-3	U		0.1		U	GAM
Ruthenium 106	13967-48-1	U		0.3		U	GAM
Cesium 134	17967-70-9	U		0.04		U	GAM
Cesium 137	10045-97-3	0.46	0.048		0.05		GAM
Europium 152	14683-23-9	U		0.07	0.1	U	GAM
Europium 154	15585-10-1	U		0.05	0.1	U	GAM
Radium 226	13982-67-7	0.39	0.071				GAM
Thorium 228	14274-82-9	0.72	0.047				GAM
Thorium 232	7440-29-1	0.60	0.15				GAM

RB 4/1/

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0175

N210152-02

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HG2

SDG 7117
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-02
Dept sample id 7117-002
Received 10/16/92
Client sample id B07HG2
Matrix SOIL
Collected 10/13/92
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	4.7	4.3	5	10	~~U~~R	80A
Gross Beta	Beta	12	3.0	4	10		80B
Uranium 233/234		0.49	0.18	0.1	0.3		U
Uranium 235	15117-96-1	0.051	0.068	0.1	0.3	U	U
Uranium 238	7440-61-1	0.64	0.21	0.1	0.3		U
Plutonium 238	13981-16-3	0.010	0.021	0.04	0.05	UJ	PU
Plutonium 239/240		0.005	0.010	0.02	0.05	UJ	PU
Americium 241	14596-10-2	0.006	0.016	0.03	0.05	U	AM
Strontium 90	10098-97-2	0.43	0.49	2	1	U	Y
Carbon 14	14762-75-5	-1.3	4.6	8	50	~~U~~R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	10	0.83				GAM
Iron 59		U		0.4	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	0.34	0.050		0.05		GAM
Europium 152	14683-23-9	0.090	0.078		0.1	J	GAM
Europium 154	15585-10-1	U		0.1	0.1	U	GAM
Radium 226	13982-67-7	0.47	0.087				GAM
Thorium 228	14274-82-9	0.66	0.051				GAM
Thorium 232	7440-29-1	0.77	0.18				GAM

RE 4/4

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0176

N210152-06

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HG3

SDG 7117
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-06
Dept sample id 7117-006
Received 10/19/92

Client sample id B07HG3
Matrix SOIL
Collected 10/13/92
Chain of custody id EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALIFIERS	TEST
Gross Alpha	Alpha	9.3	3.8	3	10	~~J~~R	80A
Gross Beta	Beta	210	7.2	4	10		80B
Uranium 233/234		0.61	0.20	0.1	0.3		U
Uranium 235	15117-96-1	0.032	0.033	0.1	0.3	U	U
Uranium 238	7440-61-1	0.57	0.20	0.1	0.3		U
Plutonium 238	13981-16-3	0.19	0.065	0.07	0.05	J	PU
Plutonium 239/240		2.4	0.28	0.03	0.05	J	PU
Americium 241	14596-10-2	1.7	0.17	0.03	0.05		AM
Strontium 90	10098-97-2	3.9	1.4	1	1		Y
Carbon 14	14762-75-5	1.1	4.4	7	50	~~J~~R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	17	1.1				GAM
Iron 59		U		2	0.05	U	GAM
Chromium 51	14392-02-0	U		20		U	GAM
Cobalt 60	10198-40-0	15	0.29		0.05		GAM
Zinc 65	17982-39-3	U		1		U	GAM
Ruthenium 106	13967-48-1	U		3		U	GAM
Cesium 134	17967-70-9	U		0.3		U	GAM
Cesium 137	10045-97-3	150	0.70		0.05		GAM
Europium 152	14683-23-9	76	1.0		0.1		GAM
Europium 154	15585-10-1	12	0.59		0.1		GAM
Radium 226	13982-67-7	0.57	0.33				GAM
Thorium 228	14274-82-9	0.80	0.31				GAM
Thorium 232	7440-29-1	0.74	0.57				GAM

RB 4/1/6

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0177

N210152-03

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HG4

SDG 7117
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-03
Dept sample id 7117-003
Received 10/16/92

Client sample id B07HG4
Matrix SOIL
Collected 10/13/92
Chain of custody id EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALIFIERS	TEST
Gross Alpha	Alpha	5.2	5.0	6	10	~~J~~R	80A
Gross Beta	Beta	29	4.8	5	10		80B
Uranium 233/234		0.35	0.14	0.1	0.3		U
Uranium 235	15117-96-1	0.016	0.032	0.1	0.3	U	U
Uranium 238	7440-61-1	0.54	0.17	0.1	0.3		U
Plutonium 238	13981-16-3	0	0.010	0.03	0.05	UJ	PU
Plutonium 239/240		0.070	0.025	0.02	0.05	J	PU
Americium 241	14596-10-2	0.047	0.029	0.04	0.05	J	AM
Strontium 90	10098-97-2	5.4	1.2	1	1		Y
Carbon 14	14762-75-5	1.9	5.6	9	50	~~J~~R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	13	0.94				GAM
Iron 59		U		0.5	0.05	U	GAM
Chromium 51	14392-02-0	U		4		U	GAM
Cobalt 60	10198-40-0	0.58	0.081		0.05		GAM
Zinc 65	17982-39-3	U		0.3		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	3.5	0.13		0.05		GAM
Europium 152	14683-23-9	4.3	0.20		0.1		GAM
Europium 154	15585-10-1	0.74	0.18		0.1		GAM
Radium 226	13982-67-7	0.42	0.11				GAM
Thorium 228	14274-82-9	0.64	0.071				GAM
Thorium 232	7440-29-1	0.46	0.24				GAM

RE 4/1/

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0178

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

N210152-04

B07HG6

SDG 7117
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-04
Dept sample id 7117-004
Received 10/16/92

Client sample id B07HG6
Matrix SOIL
Collected 10/13/92
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	3.9	3.4	4	10	~~U~~R	80A
Gross Beta	Beta	19	4.2	5	10		80B
Uranium 233/234		0.29	0.14	0.1	0.3	J	U
Uranium 235	15117-96-1	0.085	0.068	0.1	0.3	U	U
Uranium 238	7440-61-1	0.20	0.11	0.1	0.3	J	U
Plutonium 238	13981-16-3	-0.013	0.020	0.05	0.05	UJ	PU
Plutonium 239/240		0.005	0.010	0.02	0.05	UJ	PU
Americium 241	14596-10-2	-0.003	0.028	0.06	0.05	U	AM
Strontium 90	10098-97-2	0.51	0.41	1	1	U	Y
Carbon 14	14762-75-5	-3.2	5.3	9	50	~~U~~R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	9.6	1.6				GAM
Iron 59		U		0.8	0.05	U	GAM
Chromium 51	14392-02-0	U		6		U	GAM
Cobalt 60	10198-40-0	U		0.1	0.05	U	GAM
Zinc 65	17982-39-3	U		0.3		U	GAM
Ruthenium 106	13967-48-1	U		1		U	GAM
Cesium 134	17967-70-9	U		0.1		U	GAM
Cesium 137	10045-97-3	U		0.1	0.05	U	GAM
Europium 152	14683-23-9	U		0.2	0.1	U	GAM
Europium 154	15585-10-1	U		0.1	0.1	U	GAM
Radium 226	13982-67-7	U		0.3		U	GAM
Thorium 228	14274-82-9	0.60	0.21				GAM
Thorium 232	7440-29-1	U		0.5		U	GAM

RE 4/1/94

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0179

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

N210152-05

B07HG7

SDG 7117
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-05
Dept sample id 7117-005
Received 10/16/92

Client sample id B07HG7
Matrix SOIL
Collected 10/14/92
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	7.7	4.7	5	10	~~J~~R	80A
Gross Beta	Beta	16	4.4	6	10		80B
Uranium 233/234		0.38	0.18	0.1	0.3		U
Uranium 235	15117-96-1	0	0.034	0.1	0.3	U	U
Uranium 238	7440-61-1	0.44	0.18	0.1	0.3		U
Plutonium 238	13981-16-3	0.028	0.029	0.05	0.05	U	PU
Plutonium 239/240		0.011	0.014	0.03	0.05	U	PU
Americium 241	14596-10-2	0.005	0.014	0.03	0.05	U	AM
Strontium 90	10098-97-2	0.88	0.39	1	1	U	Y
Carbon 14	14762-75-5	-5.9	5.5	9	50	~~J~~R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	13	0.91				GAM
Iron 59		U		0.4	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	U		0.04	0.05	U	GAM
Europium 152	14683-23-9	U		0.08	0.1	U	GAM
Europium 154	15585-10-1	U		0.05	0.1	U	GAM
Radium 226	13982-67-7	0.44	0.080				GAM
Thorium 228	14274-82-9	0.65	0.051				GAM
Thorium 232	7440-29-1	0.74	0.20				GAM

RB 1/11

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0180

N210152-07

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HG9

SDG 7117
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-07
Dept sample id 7117-007
Received 10/26/92
Client sample id B07HG9
Matrix SOIL
Collected 10/20/92
Chain of custody id EFL-1051

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALIFIERS	TEST
Gross Alpha	Alpha	2.8	6.1	9	10	~~U~~R	80A
Gross Beta	Beta	15	4.1	5	10		80B
Uranium 233/234		0.54	0.20	0.1	0.3		U
Uranium 235	15117-96-1	0.094	0.076	0.1	0.3	U	U
Uranium 238	7440-61-1	0.43	0.16	0.1	0.3		U
Plutonium 238	13981-16-3	0.002	0.017	0.04	0.05	UJ	PU
Plutonium 239/240		0.011	0.013	0.02	0.05	UJ	PU
Americium 241	14596-10-2	-0.005	0.007	0.02	0.05	U	AM
Strontium 90	10098-97-2	0.24	0.36	1	1	U	Y
Carbon 14	14762-75-5	-4.7	4.6	8	50	~~U~~R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	9.9	0.65				GAM
Iron 59		U		0.2	0.05	U	GAM
Chromium 51	14392-02-0	U		2		U	GAM
Cobalt 60	10198-40-0	U		0.04	0.05	U	GAM
Zinc 65	17982-39-3	U		0.1		U	GAM
Ruthenium 106	13967-48-1	U		0.3		U	GAM
Cesium 134	17967-70-9	U		0.04		U	GAM
Cesium 137	10045-97-3	0.20	0.039		0.05		GAM
Europium 152	14683-23-9	0.29	0.062		0.1		GAM
Europium 154	15585-10-1	U		0.1	0.1	U	GAM
Radium 226	13982-67-7	0.42	0.067				GAM
Thorium 228	14274-82-9	0.69	0.068				GAM
Thorium 232	7440-29-1	0.57	0.14				GAM

RB 4/11

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0181

N210152-08

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HH1

SDG 7117
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-08
Dept sample id 7117-008
Received 10/26/92

Client sample id B07HH1
Matrix SOIL
Collected 10/21/92
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	5.0	3.8	4	10	~~J~~R	80A
Gross Beta	Beta	15	4.0	5	10		80B
Uranium 233/234		0.34	0.14	0.1	0.3		U
Uranium 235	15117-96-1	0.020	0.041	0.2	0.3	U	U
Uranium 238	7440-61-1	0.42	0.18	0.1	0.3		U
Plutonium 238	13981-16-3	0.004	0.036	0.06	0.05	UJ	PU
Plutonium 239/240		0.004	0.014	0.03	0.05	UJ	PU
Americium 241	14596-10-2	0	0.014	0.03	0.05	U	AM
Strontium 90	10098-97-2	0.025	0.31	1	1	U	Y
Carbon 14	14762-75-5	-1.2	5.2	9	50	~~J~~R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	9.5	1.7				GAM
Iron 59		U		0.7	0.05	U	GAM
Chromium 51	14392-02-0	U		5		U	GAM
Cobalt 60	10198-40-0	U		0.1	0.05	U	GAM
Zinc 65	17982-39-3	U		0.3		U	GAM
Ruthenium 106	13967-48-1	U		1		U	GAM
Cesium 134	17967-70-9	U		0.1		U	GAM
Cesium 137	10045-97-3	0.64	0.14		0.05		GAM
Europium 152	14683-23-9	U		0.2	0.1	U	GAM
Europium 154	15585-10-1	U		0.1	0.1	U	GAM
Radium 226	13982-67-7	0.39	0.21				GAM
Thorium 228	14274-82-9	0.50	0.17				GAM
Thorium 232	7440-29-1	0.45	0.38				GAM

RE 4/1/

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0182

N210152-09

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HH2

SDG 7117
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-09
Dept sample id 7117-009
Received 10/26/92
Client sample id B07HH2
Matrix SOIL
Collected 10/21/92
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	2.9	4.0	5	10	U R	80A
Gross Beta	Beta	17	4.6	6	10		80B
Uranium 233/234		0.44	0.15	0.09	0.3		U
Uranium 235	15117-96-1	0.028	0.028	0.1	0.3	U	U
Uranium 238	7440-61-1	0.33	0.12	0.09	0.3		U
Plutonium 238	13981-16-3	0.006	0.051	0.1	0.05	U R	PU
Plutonium 239/240		0.18	0.067	0.05	0.05	R	PU
Americium 241	14596-10-2	0	0.014	0.03	0.05	U	AM
Strontium 90	10098-97-2	0.15	0.33	1	1	U	Y
Carbon 14	14762-75-5	-3.6	5.3	9	50	U R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	13	0.81				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		0.03	0.05	U	GAM
Zinc 65	17982-39-3	U		0.1		U	GAM
Ruthenium 106	13967-48-1	U		0.3		U	GAM
Cesium 134	17967-70-9	U		0.04		U	GAM
Cesium 137	10045-97-3	U		0.03	0.05	U	GAM
Europium 152	14683-23-9	U		0.07	0.1	U	GAM
Europium 154	15585-10-1	U		0.05	0.1	U	GAM
Radium 226	13982-67-7	0.49	0.062				GAM
Thorium 228	14274-82-9	0.64	0.045				GAM
Thorium 232	7440-29-1	0.68	0.17				GAM

RB 4/1/9

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0183

N210152-07

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HG9

SDG 7117
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-07
Dept sample id 7117-007
Received 10/26/92

Client sample id B07HG9
Matrix SOIL
Collected 10/20/92
Chain of custody id EFL-1051

MB 4/1/93

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALIFIERS	TEST
Gross Alpha	Alpha	2.8	6.1	9	10	~~U~~ R	80A
Gross Beta	Beta	15	4.1	5	10		80B
Uranium 233/234		0.54	0.20	0.1	0.3		U
Uranium 235	15117-96-1	0.094	0.076	0.1	0.3	U	U
Uranium 238	7440-61-1	0.43	0.16	0.1	0.3		U
Plutonium 238	13981-16-3	0.002	0.017	0.04	0.05	UJ	PU
Plutonium 239/240		0.011	0.013	0.02	0.05	UJ	PU
Americium 241	14596-10-2	-0.005	0.007	0.02	0.05	U	AM
Strontium 90	10098-97-2	0.24	0.36	1	1	U	Y
Carbon 14	14762-75-5	-4.7	4.6	8	50	~~U~~ R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	9.9	0.65				GAM
Iron 59		U		0.2	0.05	U	GAM
Chromium 51	14392-02-0	U		2		U	GAM
Cobalt 60	10198-40-0	U		0.04	0.05	U	GAM
Zinc 65	17982-39-3	U		0.1		U	GAM
Ruthenium 106	13967-48-1	U		0.3		U	GAM
Cesium 134	17967-70-9	U		0.04		U	GAM
Cesium 137	10045-97-3	0.20	0.039		0.05		GAM
Europium 152	14683-23-9	0.29	0.062		0.1		GAM
Europium 154	15585-10-1	U		0.1	0.1	U	GAM
Radium 226	13982-67-7	0.42	0.067				GAM
Thorium 228	14274-82-9	0.69	0.068				GAM
Thorium 232	7440-29-1	0.57	0.14				GAM

LCS hi

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

5/18/93

9613499.0184

N210152-08

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HH1

SDG 7117
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-08
Dept sample id 7117-008
Received 10/26/92
Client sample id B07HH1
Matrix SOIL
Collected 10/21/92
Chain of custody id EFL-1051

RB 4/1/93

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALIFIERS	TEST
Gross Alpha	Alpha	5.0	3.8	4	10	JR	80A
Gross Beta	Beta	15	4.0	5	10		80B
Uranium 233/234		0.34	0.14	0.1	0.3		U
Uranium 235	15117-96-1	0.020	0.041	0.2	0.3	U	U
Uranium 238	7440-61-1	0.42	0.18	0.1	0.3		U
Plutonium 238	13981-16-3	0.004	0.036	0.06	0.05	UJ	PU
Plutonium 239/240		0.004	0.014	0.03	0.05	UJ	PU
Americium 241	14596-10-2	0	0.014	0.03	0.05	U	AM
Strontium 90	10098-97-2	0.025	0.31	1	1	U	Y
Carbon 14	14762-75-5	-1.2	5.2	9	50	JR	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	9.5	1.7				GAM
Iron 59		U		0.7	0.05	U	GAM
Chromium 51	14392-02-0	U		5		U	GAM
Cobalt 60	10198-40-0	U		0.1	0.05	U	GAM
Zinc 65	17982-39-3	U		0.3		U	GAM
Ruthenium 106	13967-48-1	U		1		U	GAM
Cesium 134	17967-70-9	U		0.1		U	GAM
Cesium 137	10045-97-3	0.64	0.14		0.05		GAM
Europium 152	14683-23-9	U		0.2	0.1	U	GAM
Europium 154	15585-10-1	U		0.1	0.1	U	GAM
Radium 226	13982-67-7	0.39	0.21				GAM
Thorium 228	14274-82-9	0.50	0.17				GAM
Thorium 232	7440-29-1	0.45	0.38				GAM

4/1, soil

3 soils

LCS 4.

PBD 5/18/93

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0185

N210152-09

TMA NORCAL
REPORTING GROUP 7117

DATA SHEET

B07HH2

SDG 7117
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210152-09
Dept sample id 7117-009
Received 10/26/92

Client sample id B07HH2
Matrix SOIL
Collected 10/21/92
Chain of custody id EFL-1051

RB 4/1/93

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALIFIERS	TEST
Gross Alpha	Alpha	2.9	4.0	5	10	~~U~~ R	80A
Gross Beta	Beta	17	4.6	6	10		80B
Uranium 233/234		0.44	0.15	0.09	0.3		U
Uranium 235	15117-96-1	0.028	0.028	0.1	0.3	U	U
Uranium 238	7440-61-1	0.33	0.12	0.09	0.3		U
Plutonium 238	13981-16-3	0.006	0.051	0.1	0.05	~~U~~ R	PU
Plutonium 239/240		0.18	0.067	0.05	0.05	R	PU
Americium 241	14596-10-2	0	0.014	0.03	0.05	U	AM
Strontium 90	10098-97-2	0.15	0.33	1	1	U	Y
Carbon 14	14762-75-5	-3.6	5.3	9	50	~~U~~ R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	13	0.81				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		0.03	0.05	U	GAM
Zinc 65	17982-39-3	U		0.1		U	GAM
Ruthenium 106	13967-48-1	U		0.3		U	GAM
Cesium 134	17967-70-9	U		0.04		U	GAM
Cesium 137	10045-97-3	U		0.03	0.05	U	GAM
Europium 152	14683-23-9	U		0.07	0.1	U	GAM
Europium 154	15585-10-1	U		0.05	0.1	U	GAM
Radium 226	13982-67-7	0.49	0.062				GAM
Thorium 228	14274-82-9	0.64	0.045				GAM
Thorium 232	7440-29-1	0.68	0.17				GAM

PBD 5/18/93

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/11/93

9613499.0186

WC

000005

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R03

Level: (low/med) LOW Date Received: 10/16/92 SD = 10/13

% Moisture: not dec. 1 Date Analyzed: 10/21/92

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	20	~~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	29	
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

CC RRT=1

Smpl RRT=1

FORM I VOA 3/90

5/8

9613499.0187

000006

EPA SAMPLE NO.

B07HG1

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R03

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: not dec. 1 Date Analyzed: 10/21/92

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

MB
3/30/93

9613499.0188

000007

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R06

Level: (low/med) LOW Date Received: 10/16/92 SD=10/12

% Moisture: not dec. 3 Date Analyzed: 10/21/92

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 3/30/94
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

PQ 5/18/

9613499.0189

000008

EPA SAMPLE NO.

B07HG2

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R06

Level: (low/med) LOW Date Received: 10/16/92 SD=10/1

% Moisture: not dec. 3 Date Analyzed: 10/21/92

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

9613499.0190

000009

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-06A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R10

Level: (low/med) LOW Date Received: 10/19/92 SD=10/1

% Moisture: not dec. 3 Date Analyzed: 10/21/92

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

RB 3/30/93

PB 5/16

9613499.0191

000010
EPA SAMPLE NO.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B07HG3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-06A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R10

Level: (low/med) LOW Date Received: 10/19/92 SD=10/1

% Moisture: not dec. 3 Date Analyzed: 10/21/92

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

9613499.0192

000011

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R07

Level: (low/med) LOW Date Received: 10/16/92 SD=10/13

% Moisture: not dec. 4 Date Analyzed: 10/21/92

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	19	~~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

B07 5/18

9613499.0193

000012

EPA SAMPLE NO.

B07HG4

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R07

Level: (low/med) LOW Date Received: 10/16/92 SD=10/13

% Moisture: not dec. 4 Date Analyzed: 10/21/92

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

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALCOHOL	6.67	7	J
2.	UNKNOWN HYDROCARBON	29.45	57	J

RB
3-30-93

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R08

Level: (low/med) LOW Date Received: 10/16/92 SD=10/1

% Moisture: not dec. 2 Date Analyzed: 10/21/92

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	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	20	~~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

RB 5/18

1E

EPA SAMPLE NO.

B07HG6

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R08

Level: (low/med) LOW Date Received: 10/16/92 SD=10/13

% Moisture: not dec. 2 Date Analyzed: 10/21/92

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

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALCOHOL	6.67	12	J
2.	UNKNOWN HYDROCARBON	29.45	8	J

RB
3/30/93

9613499.0196

000015

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R09

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: not dec. 3 Date Analyzed: 10/21/92 SD=10/14

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	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	18	~~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 3/30/9

PRJ 5/18/

9613499.0197

000016

EPA SAMPLE NO.

B07HG7

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R09

Level: (low/med) LOW Date Received: 10/19/92 SD = 10/

% Moisture: not dec. 3 Date Analyzed: 10/21/92

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
3/30/93

9613499.0198

000017

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 21029S11

Level: (low/med) LOW Date Received: 10/16/92 SD=10/1

% Moisture: 1 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U J
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

RB 3/30

5/12

9613499.0199

000018

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 21029S11

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 1 decanted: (Y/N) N Date Extracted: 10/23/92 SD = 10/1

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	800	U J
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	36	J
206-44-0	Fluoranthene	330	U J
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

AT'S

RB 3/30/93

(1) - Cannot be separated from Diphenylamine

9613499.0200

000019

EPA SAMPLE NO.

B07HG1

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 21029S11

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 1 decanted: (Y/N) N Date Extracted: 10/23/92 SDF

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92 10/13

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

Number TICs found: 12

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.87	43000	~~BJ~~ UJ
2.	UNKNOWN HYDROCARBON	6.07	62000	~~BJ~~ U
3.	UNKNOWN HYDROCARBON	6.32	360	~~BJ~~ U
4.	UNKNOWN HYDROCARBON	6.80	6300	~~BJ~~ U
5.	UNKNOWN HYDROCARBON	6.98	2000	J
6.	UNKNOWN KETONE	7.20	660	~~BJ~~ UJ
7.	UNKNOWN ALCOHOL	8.25	330	~~BJ~~ UJ
8.	UNKNOWN ALCOHOL	9.03	230	J
9.	UNKNOWN KETONE	12.68	170	~~BJ~~ UJ
10.	UNKNOWN CARBOXYLIC ACID ESTE	20.00	1000	~~BJ~~ U
11.	HEXANEDIOIC ACID ISOMER	24.55	99	~~BJ~~ U
12.	UNKNOWN HYDROCARBON	27.52	99	J

RB 3/30/

9613499.0201

000020

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-02B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21029S14

Level: (low/med) LOW Date Received: 10/16/92 SD=10/13

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.4

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 3/30/9

AD 5/16

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-02B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21029S14

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92 SD=10/13

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	820	U J
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	52	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

HT's exceed

RB 3/30/9

(1) - Cannot be separated from Diphenylamine

9613499.0203

000022

EPA SAMPLE NO.

B07HG2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-02B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21029S14

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.4

SD=10/13

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.63	41000	~~BJ~~ UJ
2.	UNKNOWN HYDROCARBON	5.87	84000	~~BJ~~
3.	UNKNOWN HYDROCARBON	6.18	270	~~BJ~~
4.	UNKNOWN HYDROCARBON	6.68	4200	~~BJ~~
5.	UNKNOWN HYDROCARBON	6.87	380	J
6.	UNKNOWN KETONE	7.10	480	~~BJ~~ UJ
7.	UNKNOWN KETONE	12.63	140	~~BJ~~ UJ
8.	UNKNOWN COMPOUND	21.07	960	J

HT's exceeded

RB
3/30/93

9613499.0204

000023

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-06B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21029S18

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92 SD=10/15

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.9

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	340	U J
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 exceed

RB 3/30

RB 5/17

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-06B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21029S18

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92 SD=10/13

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.9

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	270	J
7005-72-3	4-Chlorophenyl-phenylether	340	UJ
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	44	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

HT's exceed

RB 3/30/93

(1) - Cannot be separated from Diphenylamine

9613499.0206

000025

EPA SAMPLE NO.

B07HG3

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-06B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21029S18

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92 SD=10/1

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.9

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.73	41000	~~BJ~~ UJ
2.	UNKNOWN HYDROCARBON	5.97	93000	~~BJ~~
3.	UNKNOWN HYDROCARBON	6.25	270	~~BJ~~
4.	UNKNOWN HYDROCARBON	6.73	3900	~~BJ~~
5.	UNKNOWN HYDROCARBON	6.92	310	J
6.	UNKNOWN KETONE	7.15	440	~~BJ~~ UJ
7.	UNKNOWN KETONE	12.68	140	~~BJ~~ U
8.	UNKNOWN CARBOXYLIC ACID ESTE	20.00	1000	~~BJ~~ U

AT's exceeded

MB 3/30/93

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-03B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 21029S15

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 10/23/92 SAE-1

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

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	330	UJ
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

HT's exceed

RB 3/30

PB 5/18

9613499.0208

000027

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-03B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 21029S15

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

SD=10/13

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

CAS NO.	COMPOUND		Q
100-02-7	4-Nitrophenol	810	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	1300	J
7005-72-3	4-Chlorophenyl-phenylether	330	UJ
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	47	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's elev

RB 3/30/9

(1) - Cannot be separated from Diphenylamine

9613499.0209

000028

EPA SAMPLE NO.

B07HG4

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-03B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 21029S15

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 4 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

SD =10/13

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.78	42000	~~BJ~~ UJ
2.	UNKNOWN HYDROCARBON	6.00	93000	~~BJ~~
3.	UNKNOWN HYDROCARBON	6.28	270	~~BJ~~
4.	UNKNOWN HYDROCARBON	6.77	5300	~~BJ~~
5.	UNKNOWN KETONE	6.95	170	J
6.	UNKNOWN KETONE	7.17	300	~~BJ~~ UJ
7.	UNKNOWN KETONE	12.68	140	~~BJ~~ U
8.	HEXANEDIOIC ACID ISOMER	24.57	100	~~BJ~~ U

RB
3/30/93

HT's exceeded

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-04B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 21029S16

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

SD=10/10

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	810	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	810	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	810	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	810	U

HT's exceed

RB 3/30/6

PG 5/18

9613499.0211

000030
EPA SAMPLE NO.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07HG6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-04B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 21029S16

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

SD=10/13

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
100-02-7	4-Nitrophenol	810	UJ	HT's
132-64-9	Dibenzofuran	340	U	exceed
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	MB
100-01-6	4-Nitroaniline	810	U	
534-52-1	4,6-Dinitro-2-methylphenol	810	U	3/30
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	810	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	47	J	
206-44-0	Fluoranthene	340	UJ	HTs
129-00-0	Pyrene	340	U	
85-68-7	Butylbenzylphthalate	340	U	exceed
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

9613499.0212

000031

EPA SAMPLE NO.

B07HG6

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-04B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 21029S16

Level: (low/med) LOW Date Received: 10/16/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

SD=1413

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.85	38000	~~BJ~~ UJ
2.	UNKNOWN HYDROCARBON	6.02	87000	~~BJ~~
3.	UNKNOWN HYDROCARBON	6.30	300	~~BJ~~
4.	UNKNOWN HYDROCARBON	6.78	5900	~~BJ~~
5.	UNKNOWN KETONE	7.15	270	~~BJ~~
6.	UNKNOWN KETONE	12.63	140	~~BJ~~
7.	UNKNOWN CARBOXYLIC ACID ESTE	19.97	1200	~~BJ~~
8.	HEXANEDIOIC ACID ISOMER	24.52	100	~~BJ~~

A7
24

AB
3/30/93.

9613499.0213

000032
EPA SAMPLE NO.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07HG7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-05B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21029S17

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

OD=10/14

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	810	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	810	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	810	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	810	U

HT's Knee

RB 3/20/9

5/17/

9613499.0214

000033

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-05B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21029S17

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

SD=10/14

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	810	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	810	U
534-52-1	4,6-Dinitro-2-methylphenol	810	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	810	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	57	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

HT's exceed

RB 3/30/94

(1) - Cannot be separated from Diphenylamine

9613499.0215

000034

EPA SAMPLE NO.

B07HG7

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-05B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21029S17

Level: (low/med) LOW Date Received: 10/19/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

SD=10/14

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.68	39000	~~BJ~~ UJ
2.	UNKNOWN HYDROCARBON	5.90	92000	~~BJ~~
3.	UNKNOWN HYDROCARBON	6.20	270	~~BJ~~
4.	UNKNOWN HYDROCARBON	6.68	4100	~~BJ~~
5.	UNKNOWN KETONE	7.10	270	~~BJ~~
6.	UNKNOWN CARBOXYLIC ACID ESTE	19.95	1200	~~BJ~~

MB
3/30/93

9613499.0216

000035

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-01D

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

% Moisture: 1 decanted: (Y/N) N Date Received: 10/16/92 SD=10/1

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

SD=10/13

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	67	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 highlight analyte Gabt V Aroclor

RB 3/30/9

5/8/93

9613499.0217

000036

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-02B

Sample wt/vol: 30.1 (g/mL) G Lab File ID:

% Moisture: 3 decanted: (Y/N) N Date Received: 10/16/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/28/92 SD=10/13

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.4 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	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

HT's exceed holight analytes Calc RS also out

RB 3/30/9

PBD 5/18/9

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-06B

Sample wt/vol: 30.1 (g/mL) G Lab File ID:

% Moisture: 3 decanted: (Y/N) N Date Received: 10/19/92 SD=10/1

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.9 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

HTS exceed hilighte analyt calib RSD on also

RB 3/30/9

PBD 5/18/

9613499.0219

000038

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-03B

Sample wt/vol: 30.1 (g/mL) G Lab File ID:

% Moisture: 4 decanted: (Y/N) N Date Received: 10/16/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/28/92 SD=10/1

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC 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
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

HT's exceed

RB 3/8/9

hitighi Analyte Calibr R about out

RB 5/18/

9613499.0220

000039

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-04B

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

% Moisture: 2 decanted: (Y/N) N Date Received: 10/16/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/04/92 SD = 10/15

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	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	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

HT's exceed + TCX SU out

RB 3/30/93

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PGD 5/18/93

9613499.0221

000040

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-05B

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

% Moisture: 3 decanted: (Y/N) N Date Received: 10/19/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/28/92 SD=10/14

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/04/92

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	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

HT's exceeded
Nitrite analytes Cont. ND
MD 3/30/93

PC 5/18

9613499.0222

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B07HG1

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

Lab Code: SKINER Case No.: N2-10-144$AS No.: SDG No.: B07HG1

Matrix (soil/water): SOIL Lab Sample ID: 10398-03S

Level (low/med): LOW Date Received: 10/20/92

% Solids: 97.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5480			P
7440-36-0	Antimony	3.2	U	~~W~~ J	P
7440-38-2	Arsenic	1.9	~~B~~	U	F
7440-39-3	Barium	63.3		~~E~~ J	P
7440-41-7	Beryllium	0.54	B		P
7440-43-9	Cadmium	0.19	U		P
7440-70-2	Calcium	2870			P
7440-47-3	Chromium	6.7		~~*~~ J	P
7440-48-4	Cobalt	8.3	~~B~~		P
7440-50-8	Copper	11.7			P
7439-89-6	Iron	16400			P
7439-92-1	Lead	6.4			F
7439-95-4	Magnesium	2870			P
7439-96-5	Manganese	306			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	8.1			P
7440-09-7	Potassium	911	~~B~~		P
7782-49-2	Selenium	0.69	U	~~W~~ J	F
7440-22-4	Silver	1.2	~~B~~	U	P
7440-23-5	Sodium	170	~~B~~		P
7440-28-0	Thallium	0.33	U	~~W~~ J	F
7440-62-2	Vanadium	42.0			P
7440-66-6	Zinc	37.0		~~E~~ J	P
	Cyanide	0.51	U		CA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

4-1-93 SC

PBJ 5/18/93

FORM I - IN ILM02.1

002

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HG2

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

Lab Code: SKINER Case No.: N2-10-144$AS No.: SDG No.: B07HG1

Matrix (soil/water): SOIL Lab Sample ID: 10398-04S

Level (low/med): LOW Date Received: 10/20/92

% Solids: 95.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5010			P
7440-36-0	Antimony	3.1	U	~~N~~ J	P
7440-38-2	Arsenic	1.9		U	F
7440-39-3	Barium	57.8		E J	P
7440-41-7	Beryllium	0.10	~~B~~	U	P
7440-43-9	Cadmium	0.18	U		P
7440-70-2	Calcium	5300			P
7440-47-3	Chromium	5.1		~~*~~ J	P
7440-48-4	Cobalt	9.3			P
7440-50-8	Copper	14.7			P
7439-89-6	Iron	18800			P
7439-92-1	Lead	4.6			F
7439-95-4	Magnesium	3810			P
7439-96-5	Manganese	298			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	7.7			P
7440-09-7	Potassium	923			P
7782-49-2	Selenium	0.68	U		F
7440-22-4	Silver	0.48	~~B~~	U	P
7440-23-5	Sodium	213	~~B~~		P
7440-28-0	Thallium	0.32	U	~~W~~ J	F
7440-62-2	Vanadium	41.7			P
7440-66-6	Zinc	35.1		E J	P
	Cyanide	0.52	U		CA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

5/18/93 4-1-93 SC

FORM I - IN ILM02.1

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HG3

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

Lab Code: SKINER Case No.: N2-10-144$AS No.: SDG No.: B07HG1

Matrix (soil/water): SOIL Lab Sample ID: 10398-02S

Level (low/med): LOW Date Received: 10/20/92

% Solids: 95.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5450			P
7440-36-0	Antimony	3.2	U	J N	P
7440-38-2	Arsenic	2.7			F
7440-39-3	Barium	60.4		E J	P
7440-41-7	Beryllium	0.09	B	U	P
7440-43-9	Cadmium	0.19	U		P
7440-70-2	Calcium	6680			P
7440-47-3	Chromium	13.0		E J	P
7440-48-4	Cobalt	7.5	B		P
7440-50-8	Copper	27.3			P
7439-89-6	Iron	16500			P
7439-92-1	Lead	4.4		S	F
7439-95-4	Magnesium	4430			P
7439-96-5	Manganese	281			P
7439-97-6	Mercury	0.31			CV
7440-02-0	Nickel	10.7			P
7440-09-7	Potassium	842	B		P
7782-49-2	Selenium	0.67	U		F
7440-22-4	Silver	1.3	B	U	P
7440-23-5	Sodium	179	B		P
7440-28-0	Thallium	0.32	U	W J	F
7440-62-2	Vanadium	37.1			P
7440-66-6	Zinc	43.8		E J	P
	Cyanide	0.50	U		CA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

4-1-93 SC

5/18/93

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WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HG4

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

Lab Code: SKINER Case No.: N2-10-144$AS No.: SDG No.: B07HG1

Matrix (soil/water): SOIL Lab Sample ID: 10398-05S

Level (low/med): LOW Date Received: 10/20/92

% Solids: 95.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4730			P
7440-36-0	Antimony	3.3	U	~~N~~ J	P
7440-38-2	Arsenic	2.1		~~S~~	F
7440-39-3	Barium	59.6		~~E~~ J	P
7440-41-7	Beryllium	0.62	B		P
7440-43-9	Cadmium	0.20	U		P
7440-70-2	Calcium	6220			P
7440-47-3	Chromium	10.0		~~E~~ J	P
7440-48-4	Cobalt	5.4	B		P
7440-50-8	Copper	10.6			P
7439-89-6	Iron	12700			P
7439-92-1	Lead	3.6			F
7439-95-4	Magnesium	4180			P
7439-96-5	Manganese	238			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	9.8			P
7440-09-7	Potassium	849	B		P
7782-49-2	Selenium	0.67	U	~~MW~~ J	F
7440-22-4	Silver	0.61	~~B~~	~~U~~	P
7440-23-5	Sodium	118	B		P
7440-28-0	Thallium	0.32	U	~~W~~ J	F
7440-62-2	Vanadium	22.7			P
7440-66-6	Zinc	28.5		~~E~~ J	P
	Cyanide	0.51	U		CA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

4-1-93 SC

5/18/93

FORM I - IN ILM02.1

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HG6

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

Lab Code: SKINER Case No.: N2-10-144$AS No.: SDG No.: B07HG1

Matrix (soil/water): SOIL Lab Sample ID: 10398-06S

Level (low/med): LOW Date Received: 10/20/92

% Solids: 92.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3800			P
7440-36-0	Antimony	3.4	U	~~N~~ J	P
7440-38-2	Arsenic	1.0	~~B~~	U.	F
7440-39-3	Barium	46.0		~~E~~ J.	P
7440-41-7	Beryllium	0.15	~~B~~	U.	P
7440-43-9	Cadmium	0.20	U		P
7440-70-2	Calcium	3110			P
7440-47-3	Chromium	9.3		~~E~~ J.	P
7440-48-4	Cobalt	3.8	~~B~~		P
7440-50-8	Copper	11.0			P
7439-89-6	Iron	8840			P
7439-92-1	Lead	2.8			F
7439-95-4	Magnesium	2440			P
7439-96-5	Manganese	185			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	6.7	B		P
7440-09-7	Potassium	792	B		P
7782-49-2	Selenium	0.76	U	~~W~~ J.	F
7440-22-4	Silver	0.51	U		P
7440-23-5	Sodium	172	B		P
7440-28-0	Thallium	0.36	U	~~W~~ J.	F
7440-62-2	Vanadium	14.9			P
7440-66-6	Zinc	24.3		~~E~~ J.	P
	Cyanide	0.53	U		CA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

4-1-93 SC

FORM I - IN 5/18/93 ILM02.1

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WESTINGHOUSE/HANFORD

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SAMPLE NUMBE

B07HG7

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: SKINER Case No.: N2-10-144$AS No.: SDG No.: B07HG

Matrix (soil/water): SOIL Lab Sample ID: 10398-01S

Level (low/med): LOW Date Received: 10/20/92

% Solids: 94.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4180			P
7440-36-0	Antimony	3.5	U	~~N~~ J	P
7440-38-2	Arsenic	1.1	~~B~~	W	F
7440-39-3	Barium	50.1		~~E~~ J	P
7440-41-7	Beryllium	0.52	B		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	4180			P
7440-47-3	Chromium	11.1		~~K~~ J	P
7440-48-4	Cobalt	3.7	B		P
7440-50-8	Copper	20.1			P
7439-89-6	Iron	8080			P
7439-92-1	Lead	3.2			F
7439-95-4	Magnesium	2680			P
7439-96-5	Manganese	170			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	7.3	B		P
7440-09-7	Potassium	880	B		P
7782-49-2	Selenium	0.75	U		F
7440-22-4	Silver	0.52	U		P
7440-23-5	Sodium	185	B		P
7440-28-0	Thallium	0.35	U	~~W~~ J	F
7440-62-2	Vanadium	15.9			P
7440-66-6	Zinc	24.1		~~E~~	P
	Cyanide	0.52	U		CA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

A-143 SC

FORM I - IN

DBJ 5/15/93

ILM02.1

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9613499.0228

000002

 Skinner&Sherman REPORT Work Order # S2-10-399

Received: 10/20/92 Results by Sample

SAMPLE ID B07HG7 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 10/14/92 Category SOLID

NO3NO2 <2.49 UV
mg N/kg

SAMPLE ID B07HG7 DUPL SAMPLE # 01 FRACTIONS: B
Date & Time Collected 10/14/92 Category SOLID

NO3NO2 <2.48
mg N/kg

SAMPLE ID B07HG7 SPIKE SAMPLE # 01 FRACTIONS: C
Date & Time Collected 10/14/92 Category SOLID

NO3NO2 19.9
mg N/kg

SAMPLE ID B07HG3 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 10/13/92 Category SOLID

NO3NO2 <2.47 U
mg N/kg

SAMPLE ID B07HG1 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 10/13/92 Category SOLID

NO3NO2 3.71
mg N/kg

SAMPLE ID B07HG2 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 10/13/92 Category SOLID

NO3NO2 18.6
mg N/kg

SAMPLE ID B07HG4 SAMPLE # 05 FRACTIONS: A
Date & Time Collected 10/13/92 Category SOLID

NO3NO2 <2.47 U
mg N/kg

4-1-93 SL

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc. 200 Second Avenue, P.O. Box 521, Needham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-5883

9613499.0229

000003

 Skinner&Sherman REPORT Work Order # S2-10-399

Received: 10/20/92 Results by Sample

SAMPLE ID B07MG6 SAMPLE # 06 FRACTIONS: A

Date & Time Collected 10/13/92 Category SOLID

NO3NO2 <2.50 ✓
mg N/kg

SAMPLE ID LCSS SAMPLE # 07 FRACTIONS: A

Date & Time Collected not specified Category SOLID

NO3NO2 1.89 ✓
mg N/L

4-1-93 SC

TMA
Thermo Analytical Inc
Skinner & Sherman Laboratories Inc. 300 Second Avenue
1-800-4 LAB TEST FAX (617) 890-3
02254-0521 (617) 890-720

TNA Inc. REPORT Work Order # A2-10-051

Received: 10/19/92

Results by Sample

SAMPLE ID B07NG1 FRACTION 01G TEST CODE VCCLPS NAME Anions in Solids - VN232

Date & Time Collected 10/12/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.6	mg/Kg	0.2
Sulfate	300.0	6	mg/Kg	2

FORM I

4-1-93 SC

PBD
5/18/93

TMA Inc. REPORT Work Order # A2-10-051

Received: 10/19/92

Results by Sample

SAMPLE ID B07M62 FRACTION 02E TEST CODE VCCLPS NAME Anions in Solids - VM232

Date & Time Collected 10/13/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	1.0	mg/Kg	0.2
Sulfate	300.0	43	mg/Kg	2

FORM I

4-1-93 SC

PBD
5/18/93

TMA Inc. REPORT Work Order # A2-10-051

Received: 10/19/92 Results by Sample

SAMPLE ID B07WG3 FRACTION 06C TEST CODE VCCLPS NAME Anions in Solids - VH232

Date & Time Collected 10/13/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.6	mg/Kg	0.2
Sulfate	300.0	10	mg/Kg	2

FORM I

4-1-93 SC

PBD 5/18/93

9613499.0233

000013

TMA Inc. REPORT Work Order # A2-10-051

Received: 10/19/92

Results by Sample

SAMPLE ID B07MG4 FRACTION 03C TEST CODE WCCLPS NAME Anions in Solids - WM232

Date & Time Collected 10/13/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.6	mg/Kg	0.2
Sulfate	300.0	6	mg/Kg	2

FORM I

4-1-93 SC

PBD
5/18/93

T Work Order # A2-10-08A Inc. REPORT
Received: 10/19/92 Results by Sample

SAMPLE ID B07NG6 FRACTION 04C TEST CODE VCCLPS NAME Anions in Solids - VH232
Date & Time Collected 10/13/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	0.7	mg/Kg	0.2
Sulfate	300.0	13	mg/Kg	2

FORM I

4-1-93 SC

PRD
5/18/93

9613499.0235

000015

TMA Inc. REPORT Work Order # A2-10-051

Received: 10/19/92

Results by Sample

SAMPLE ID B07NG7 FRACTION 05C TEST CODE VCCLPS NAME Anions in Solids - VN232

Date & Time Collected 10/14/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	<0.2 U	mg/Kg	0.2
Sulfate	300.0	8	mg/Kg	2

FORM I

4-1-93 SC

PBD
5/18/93

9613499.0236

DATA QUALIFICATION SUMMARY

SDG: B07HG1	REVIEWER: SC	DATE: 4-1-93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Arsenic	U	B07HG1, B07HG2, B07HG4, B07HG6, B07HG7	Lab Blank Contamination
Beryllium	↓	B07HG2, B07HG3, B07HG6	↓
Silver	↓	B07HG1, B07HG2, B07HG3, B07HG4	↓
Antimony	J	All	Matrix Spike
Chromium	J	All	lab duplicate
Barium	↓	↓	ICP serial dilution
Zinc	↓	↓	↓
Selenium	J	B07HG1, B07HG4, B07HG6	
Thallium	J	all	GFAAOC

1F

EPA SAMPLE NO.

VBLK1021R

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: SBLK1021

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21021R02

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 10/21/92

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

4B

EPA SAMPLE NO.

SBLK1023S

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Lab File ID: 21029S10 Lab Sample ID: A210051-BLK

Instrument ID: SHERMA Date Extracted: 10/23/92

Matrix: (soil/water) SOIL Date Analyzed: 10/29/92

Level: (low/med) LOW Time Analyzed: 1831

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	B07HG1	A210051-01D	21029S11	10/29/92
02	B07HG2	A210051-02B	21029S14	10/29/92
03	B07HG3	A210051-06B	21029S18	10/29/92
04	B07HG4	A210051-03B	21029S15	10/29/92
05	B07HG6	A210051-04B	21029S16	10/29/92
06	B07HG7	A210051-05B	21029S17	10/29/92
07	B07HG1MS	A210051-01E	21029S12	10/29/92
08	B07HG1MSD	A210051-01F	21029S13	10/29/92

COMMENTS: CLP,10051,,SBLK1023S,L,S,A210051-BLK,B,BLANK
CAP/.25,21029S01,2DFT1029S1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1023S

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-BLK

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21029S10

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1023S

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-BLK

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21029S10

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

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	36	J
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

9613499.0241

000053
EPA SAMPLE NO.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SBLK1023S

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-BLK

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21029S10

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 10/23/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/29/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.73	26000	J
2.	UNKNOWN HYDROCARBON	5.97	94000	J
3.	UNKNOWN HYDROCARBON	6.25	300	J
4.	UNKNOWN HYDROCARBON	6.73	4500	J
5.	UNKNOWN KETONE	7.15	200	J
6.	UNKNOWN ALCOHOL	8.22	270	J
7.	UNKNOWN KETONE	12.67	130	J
8.	PROPANOIC ACID ISOMER	16.87	67	J
9.	UNKNOWN CARBOXYLIC ACID ESTE	19.98	470	J
10.	HEXANEDIOIC ACID ISOMER	24.55	67	J

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLK1028S

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Lab Sample ID: A210051-BLK Lab File ID: _____

Matrix: (soil/water) SOIL Extraction: (SepF/Cont/Sonc) SONC

Sulfur Cleanup: (Y/N) N Date Extracted: 10/28/92

Date Analyzed (1): 11/04/92 Date Analyzed (2): 11/04/92

Time Analyzed (1): 0422 Time Analyzed (2): 0422

Instrument ID (1): H5890C Instrument ID (2): H5890D

GC Column (1): DB-608 ID: 0.53 (mm) GC Column (2): DB-1701 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	B07HG1	A210051-01D	11/04/92	11/04/92
02	B07HG2	A210051-02B	11/04/92	11/04/92
03	B07HG3	A210051-06B	11/04/92	11/04/92
04	B07HG4	A210051-03B	11/04/92	11/04/92
05	B07HG6	A210051-04B	11/04/92	11/04/92
06	B07HG7	A210051-05B	11/04/92	11/04/92
07	B07HG2MS	A210051-02C	11/04/92	11/04/92
08	B07HG2MSD	A210051-02D	11/04/92	11/04/92

COMMENTS:

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK1028S

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210051-BLK

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: _____

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: ____ 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	67	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

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Lab File ID (Standard): 21021R01 Date Analyzed: 10/21/92

Instrument ID: 4500 Time Analyzed: 1106

GC Column: PACK ID: 2.00(mm) Heated Purge: (Y/N) Y

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	26092	7.83	101914	16.25	93941	20.34
	UPPER LIMIT	52184	8.33	203828	16.75	187882	20.84
	LOWER LIMIT	13046	7.33	50957	15.75	46970	19.84
	EPA SAMPLE NO.						
01	B07HG1	20067	7.95	75333	16.25	66394	20.34
02	B07HG2	21363	7.95	83310	16.29	72744	20.37
03	B07HG3	20840	7.70	79273	16.25	70412	20.34
04	B07HG4	20575	7.75	79092	16.29	69598	20.37
05	B07HG6	21351	7.75	81693	16.29	72378	20.34
06	B07HG7	20576	7.70	78174	16.25	68790	20.34
07	B07HG1MS	20233	7.75	78747	16.25	65412	20.34
08	B07HG1MSD	19836	7.70	75040	16.25	61787	20.34
09	VBLK1021R	21309	7.95	83414	16.25	75438	20.34

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Lab File ID (Standard): 21029S01 Date Analyzed: 10/29/92

Instrument ID: SHERMA Time Analyzed: 1239

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	28158	8.28	105912	11.25	48000	15.65
	UPPER LIMIT	56316	8.78	211824	11.75	96000	16.15
	LOWER LIMIT	14079	7.78	52956	10.75	24000	15.15
	EPA SAMPLE NO.						
01	B07HG1	37440	8.35	122209	11.27	61120	15.65
02	B07HG2	37186	8.30	121855	11.22	63112	15.62
03	B07HG3	36974	8.34	121464	11.27	64248	15.65
04	B07HG4	36625	8.35	120450	11.27	62318	15.65
05	B07HG6	39760	8.30	126171	11.22	64394	15.62
06	B07HG7	35414	8.28	117202	11.22	60274	15.60
07	B07HG1MS	36576	8.35	121925	11.27	63486	15.67
08	B07HG1MSD	36080	8.34	117034	11.27	59960	15.65
09	SBLK1023S	33978	8.32	112891	11.25	57374	15.65

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10051 SAS No.: NA SDG No.: NA

Lab File ID (Standard): 21029S01 Date Analyzed: 10/29/92

Instrument ID: SHERMA Time Analyzed: 1239

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	62860	19.40	55991	25.54	35209	28.76
	UPPER LIMIT	125720	19.90	111982	26.04	70418	29.26
	LOWER LIMIT	31430	18.90	27996	25.04	17604	28.26
	EPA SAMPLE NO.						
01	B07HG1	86874	19.39	57494	25.51	53178	28.76
02	B07HG2	86232	19.37	62519	25.49	59892	28.72
03	B07HG3	89126	19.39	56798	25.52	58047	28.77
04	B07HG4	87619	19.40	58007	25.52	60711	28.77
05	B07HG6	90646	19.35	59218	25.47	58926	28.71
06	B07HG7	81254	19.35	57476	25.47	58121	28.71
07	B07HG1MS	83315	19.40	57910	25.52	56576	28.77
08	B07HG1MSD	81632	19.40	54104	25.52	51773	28.76
09	SBLK1023S	80392	19.39	50915	25.49	54590	28.74

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

9613499.0247

CASE NO. 10-051

ORGANICS

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 10-051

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : October 16, 1992 & October 19, 1992

1.0 DESCRIPTION OF CASE :

Six 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
B07HG1	A2-10-051-01A	V	SOIL
B07HG1 MS	A2-10-051-01B	V	SOIL
B07HG1 MSD	A2-10-051-01C	V	SOIL
B07HG1	A2-10-051-01D	SV & P	SOIL
B07HG1 MS	A2-10-051-01E	SV	SOIL
B07HG1 MSD	A2-10-051-01F	SV	SOIL
B07HG2	A2-10-051-02A	V	SOIL
B07HG2	A2-10-051-02B	SV & P	SOIL
B07HG2 MS	A2-10-051-02C	P	SOIL
B07HG2 MSD	A2-10-051-02D	P	SOIL
B07HG4	A2-10-051-03A	V	SOIL
B07HG4	A2-10-051-03B	SV & P	SOIL
B07HG6	A2-10-051-04A	V	SOIL
B07HG6	A2-10-051-04B	SV & P	SOIL
B07HG7	A2-10-051-05A	V	SOIL
B07HG7	A2-10-051-05B	SV & P	SOIL
B07HG3	A2-10-051-06A	V	SOIL
B07HG3	A2-10-051-06B	SV & P	SOIL

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

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.

PESTICIDE/PCB ANALYSIS :

SEQUENCE NOTES :

The sequence was started on 11/03/92 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 :

All of the samples were extracted within the CLP SOW holding times with the exception of samples B07HG1, B07HG2, B07HG4 and B07HG6. All of the samples were analyzed within the holding time. The TCX surrogate recoveries were slightly below the advisory QC limit for sample PBLK1028S on the DB-608 column, and for samples B07HG2MS and B07HG6 on the DB-1701 column. Dieldrin spike recoveries for samples B07HG2MS and B07HG2MSD on the DB-1701 column were very high due to an interference peak that co-eluted with Dieldrin. This co-elution resulted in a percent difference (%D) between the two GC columns that exceeded the 25% limit. Therefore, the Dieldrin results from the MS and MSD samples have been "P" qualified. The same interference peak was detected in the unspiked sample B07HG2 only on the DB-1701 column.

All of the other QC 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

9613499.0251

Package ID: B07HH4 - TMA-342

VERIFICATION CHECKLIST FOR BETA AND GAS PROPORTIONAL COUNTING

Analysis: Gross Alpha Beta

	Yes	No	NA
Analysis Results			
Results and Minimum Detectable Activity (MDA) Report			
for Sample Analyses, Recounts and Reanalyses	☒	☐	
for Blank Analyses, Recounts and Reanalyses	☒	☐	
for Duplicate Analyses, Recounts and Reanalyses	☒	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☒	☐	
Sample Preparation Data	☒	☐	
Calculation Sheets	☒	☐	
Sample Identifications	☒	☐	
Detector Identifications	☒	☐	
Detector Efficiencies	☒	☐	
Dates of Analysis	☒	☐	
Gravimetric/Chemical Yields			☐
Results Report for Chemical Yields	☐	☐	
Raw Data (Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☐	☐	
Calculation Sheets	☐	☐	
Sample Identifications	☐	☐	
Chemical Yield Source Identification, Traceability and Dilution Log	☐	☐	
Calculated Recoveries	☐	☐	
Matrix Spike Recovery			☒
Results and MDA Reports for Matrix Spike Analyses, Recounts and Reanalyses	☐	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☐	☐	
Calculation Sheets	☐	☐	
Matrix Spike Sample Identifications	☐	☐	
Matrix Spike Source Traceability and Dilution Log	☐	☐	
Detector Identifications	☐	☐	
Detector Efficiencies	☐	☐	
Dates of Analysis	☐	☐	
Calculated Recoveries	☐	☐	
Laboratory Control Samples (LCS)			
Results and MDA Reports for LCS Analyses, Recounts and Reanalyses	☒	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☒	☐	
Sample Preparation Data	☒	☐	
Calculation Sheets	☒	☐	
LCS Identification, Activity and Traceability	☐	☐	
Detector Identifications	☒	☐	
Detector Efficiencies	☒	☐	
Dates of Analysis	☒	☐	
Calculated Recoveries	☒	☐	

9613499.0252

Package ID: B07HH4-TMA-342

VERIFICATION CHECKLIST FOR BETA AND GAS PROPORTIONAL COUNTING

Analysis: Sr-90

	Yes	No	NA
Analysis Results			
Results and Minimum Detectable Activity (MDA) Report			
for Sample Analyses, Recounts and Reanalyses	X	☐	
for Blank Analyses, Recounts and Reanalyses	X	☐	
for Duplicate Analyses, Recounts and Reanalyses	X	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	X	☐	
Sample Preparation Data	X	☐	
Calculation Sheets	X	☐	
Sample Identifications	X	☐	
Detector Identifications	X	☐	
Detector Efficiencies	☐	☐	
Dates of Analysis	X	☐	
Gravimetric/Chemical Yields			X
Results Report for Chemical Yields	☐	☐	
Raw Data (Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☐	☐	
Calculation Sheets	☐	☐	
Sample Identifications	☐	☐	
Chemical Yield Source Identification, Traceability and Dilution Log	☐	☐	
Calculated Recoveries	☐	☐	
Matrix Spike Recovery			X
Results and MDA Reports for Matrix Spike Analyses, Recounts and Reanalyses	☐	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☐	☐	
Calculation Sheets	☐	☐	
Matrix Spike Sample Identifications	☐	☐	
Matrix Spike Source Traceability and Dilution Log	☐	☐	
Detector Identifications	☐	☐	
Detector Efficiencies	☐	☐	
Dates of Analysis	☐	☐	
Calculated Recoveries	☐	☐	
Laboratory Control Samples (LCS)			
Results and MDA Reports for LCS Analyses, Recounts and Reanalyses	X	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	X	☐	
Sample Preparation Data	X	☐	
Calculation Sheets	X	☐	
LCS Identification, Activity and Traceability	X	☐	
Detector Identifications	X	☐	
Detector Efficiencies	☐	☐	
Dates of Analysis	X	☐	
Calculated Recoveries	X	☐	

9613499.0253

Package ID: BD7HH4-TMA-342

VERIFICATION CHECKLIST FOR BETA AND GAS PROPORTIONAL COUNTING

Analysis: Tc-99

	Yes	No	NA
Analysis Results			
Results and Minimum Detectable Activity (MDA) Report			
for Sample Analyses, Recounts and Reanalyses	☒	☐	
for Blank Analyses, Recounts and Reanalyses	☒	☐	
for Duplicate Analyses, Recounts and Reanalyses	☒	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☒	☐	
Calculation Sheets	☒	☐	
Sample Identifications	☒	☐	
Detector Identifications	☒	☐	
Detector Efficiencies	☐	☐	
Dates of Analysis	☒	☐	
Gravimetric/Chemical Yields			☐
Results Report for Chemical Yields	☐	☐	
Raw Data (Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☐	☐	
Calculation Sheets	☐	☐	
Sample Identifications	☐	☐	
Chemical Yield Source Identification, Traceability and Dilution Log	☐	☐	
Calculated Recoveries	☐	☐	
Matrix Spike Recovery			☐
Results and MDA Reports for Matrix Spike Analyses, Recounts and Reanalyses	☐	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☐	☐	
Calculation Sheets	☐	☐	
Matrix Spike Sample Identifications	☐	☐	
Matrix Spike Source Traceability and Dilution Log	☐	☐	
Detector Identifications	☐	☐	
Detector Efficiencies	☐	☐	
Dates of Analysis	☐	☐	
Calculated Recoveries	☐	☐	
Laboratory Control Samples (LCS)			
Results and MDA Reports for LCS Analyses, Recounts and Reanalyses	☒	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☒	☐	
Sample Preparation Data	☒	☐	
Calculation Sheets	☒	☐	
LCS Identification, Activity and Traceability	☒	☐	
Detector Identifications	☒	☐	
Detector Efficiencies	☐	☐	
Dates of Analysis	☒	☐	
Calculated Recoveries	☒	☐	

9613499.0254

Package ID: B07HH4-TMA-342

VERIFICATION CHECKLIST FOR ALPHA SPECTROSCOPY

Analysis: LSDAM

	Yes	No	NA
Analysis Results			
Results and Minimum Detectable Activity (MDA) Report			
for Sample Analyses, Recounts and Reanalyses	X	☐	
for Blank Analyses, Recounts and Reanalyses	X	☐	
for Duplicate Analyses, Recounts and Reanalyses	X	☐	
Raw Data (Spectra or Printouts or Notebook Pages)	X	☐	
Sample Preparation Data	X	☐	
Calculation Sheet	X	☐	
Sample Identifications	X	☐	
Detector Identifications	X	☐	
Detector Efficiencies	X	☐	
Dates of Analysis	X	☐	
Matrix Spike Recovery			X
Results and MDA Reports for Matrix Spike Analyses, Recounts and Reanalyses	☐	☐	
Raw Data (Spectra or Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☐	☐	
Calculation Sheets	☐	☐	
Matrix Spike Sample Identifications	☐	☐	
Matrix Spike Source Traceability and Dilution Log	☐	☐	
Detector Identifications	☐	☐	
Detector Efficiencies	☐	☐	
Dates of Analysis	☐	☐	
Calculated Recoveries	☐	☐	
Tracer Recovery			
Results Report for Tracer Analyses	☐	☐	
Raw Data (Spectra and Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☐	☐	
Calculation Sheets	☐	☐	
Tracer Identification, Traceability and Dilution Log	☐	☐	
Detector Identifications	☐	☐	
Detector Efficiencies	☐	☐	
Dates of Analysis	☐	☐	
Calculated Recoveries	☐	☐	
Laboratory Control Samples (LCS)			
Results and MDA Reports for LCS Analyses, Recounts and Reanalyses	X	☐	
Raw Data (Spectra or Printouts or Notebook Pages)	X	☐	
Sample Preparation Data	X	☐	
Calculation Sheets	X	☐	
LCS Identification, Activity and Traceability	X	☐	
Detector Identifications	X	☐	
Detector Efficiencies	X	☐	
Dates of Analysis	X	☐	
Calculated Recoveries	X	☐	

9613499.0255

Package ID: B07HH4-TMA-342

VERIFICATION CHECKLIST FOR ALPHA SPECTROSCOPY

Analysis: Iso-Pu

	Yes	No	NA
Analysis Results			
Results and Minimum Detectable Activity (MDA) Report			
for Sample Analyses, Recounts and Reanalyses	☒	☐	
for Blank Analyses, Recounts and Reanalyses	☒	☐	
for Duplicate Analyses, Recounts and Reanalyses	☒	☐	
Raw Data (Spectra or Printouts or Notebook Pages)	☒	☐	
Sample Preparation Data	☒	☐	
Calculation Sheet	☒	☐	
Sample Identifications	☒	☐	
Detector Identifications	☒	☐	
Detector Efficiencies	☒	☐	
Dates of Analysis	☒	☐	
Matrix Spike Recovery			☒
Results and MDA Reports for Matrix Spike Analyses, Recounts and Reanalyses	☐	☐	
Raw Data (Spectra or Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☐	☐	
Calculation Sheets	☐	☐	
Matrix Spike Sample Identifications	☐	☐	
Matrix Spike Source Traceability and Dilution Log	☐	☐	
Detector Identifications	☐	☐	
Detector Efficiencies	☐	☐	
Dates of Analysis	☐	☐	
Calculated Recoveries	☐	☐	
Tracer Recovery			
Results Report for Tracer Analyses	☐	☐	
Raw Data (Spectra and Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☐	☐	
Calculation Sheets	☐	☐	
Tracer Identification, Traceability and Dilution Log	☐	☐	
Detector Identifications	☐	☐	
Detector Efficiencies	☐	☐	
Dates of Analysis	☐	☐	
Calculated Recoveries	☐	☐	
Laboratory Control Samples (LCS)			
Results and MDA Reports for LCS Analyses, Recounts and Reanalyses	☒	☐	
Raw Data (Spectra or Printouts or Notebook Pages)	☒	☐	
Sample Preparation Data	☒	☐	
Calculation Sheets	☒	☐	
LCS Identification, Activity and Traceability	☒	☐	
Detector Identifications	☒	☐	
Detector Efficiencies	☒	☐	
Dates of Analysis	☒	☐	
Calculated Recoveries	☒	☐	

9613499.0256

Package ID: B07HH4-TMA-342

VERIFICATION CHECKLIST FOR ALPHA SPECTROSCOPY

Analysis: Iso-U

	Yes	No	NA
Analysis Results			
Results and Minimum Detectable Activity (MDA) Report			
for Sample Analyses, Recounts and Reanalyses	☒	☐	
for Blank Analyses, Recounts and Reanalyses	☒	☐	
for Duplicate Analyses, Recounts and Reanalyses	☒	☐	
Raw Data (Spectra or Printouts or Notebook Pages)	☒	☐	
Sample Preparation Data	☒	☐	
Calculation Sheet	☒	☐	
Sample Identifications	☒	☐	
Detector Identifications	☒	☐	
Detector Efficiencies	☒	☐	
Dates of Analysis	☒	☐	
Matrix Spike Recovery			☒
Results and MDA Reports for Matrix Spike Analyses, Recounts and Reanalyses	☐	☐	
Raw Data (Spectra or Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☐	☐	
Calculation Sheets	☐	☐	
Matrix Spike Sample Identifications	☐	☐	
Matrix Spike Source Traceability and Dilution Log	☐	☐	
Detector Identifications	☐	☐	
Detector Efficiencies	☐	☐	
Dates of Analysis	☐	☐	
Calculated Recoveries	☐	☐	
Tracer Recovery			
Results Report for Tracer Analyses	☐	☐	
Raw Data (Spectra and Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☐	☐	
Calculation Sheets	☐	☐	
Tracer Identification, Traceability and Dilution Log	☐	☐	
Detector Identifications	☐	☐	
Detector Efficiencies	☐	☐	
Dates of Analysis	☐	☐	
Calculated Recoveries	☐	☐	
Laboratory Control Samples (LCS)			
Results and MDA Reports for LCS Analyses, Recounts and Reanalyses	☒	☐	
Raw Data (Spectra or Printouts or Notebook Pages)	☒	☐	
Sample Preparation Data	☒	☐	
Calculation Sheets	☒	☐	
LCS Identification, Activity and Traceability	☒	☐	
Detector Identifications	☒	☐	
Detector Efficiencies	☒	☐	
Dates of Analysis	☒	☐	
Calculated Recoveries	☒	☐	

9613499.0257

Package ID: B07HH4-TMA-342

VERIFICATION CHECKLIST FOR LIQUID SCINTILLATION COUNTING

C-14

	Yes	No	NA
Analysis Results			
Results and Minimum Detectable Activity (MDA) Report			
for Sample Analyses, Recounts and Reanalyses	☒	☐	
for Blank Analyses, Recounts and Reanalyses	☒	☐	
for Duplicate Analyses, Recounts and Reanalyses	☒	☐	
Internal Standard or Quench Monitoring Results, Activity and Traceability	☐	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☒	☐	
Sample Preparation Data	☒	☐	
Calculation Sheets	☒	☐	
Sample Identifications	☒	☐	
Instrument Identifications	☒	☐	
Dates of Analysis	☒	☐	
Continuing Calibration			
Instrument Identification	☐	☐	
Continuing Calibration Results Report, Control Charts and Control Limits	☒	☐	
Calibration Standard Identification, Traceability, Activity, Dilution Log and Expiration Date	☒	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☒	☐	
Counting Efficiency Determination Method and Results	☒	☐	
Internal Standard or Quench Monitoring Values	☐	☐	
Matrix Spike Recovery			☒
Results and MDA Reports for Matrix Spike Analyses, Recounts and Reanalyses	☐	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☐	☐	
Calculation Sheets	☐	☐	
Matrix Spike Sample Identifications	☐	☐	
Matrix Spike Source Traceability and Dilution Log	☐	☐	
Instrument Identifications	☐	☐	
Dates of Analysis	☐	☐	
Calculated Recoveries	☐	☐	
Laboratory Control Samples (LCS)			
Results and MDA Reports for LCS Analyses, Recounts and Reanalyses	☒	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☒	☐	
Sample Preparation Data	☒	☐	
Calculation Sheets	☒	☐	
LCS Identification, Activity and Traceability	☒	☐	
Instrument Identifications	☒	☐	
Dates of Analysis	☒	☐	
Calculated Recoveries	☒	☐	

9613499.0258

Package ID: BD7HH4-TMA-342

VERIFICATION CHECKLIST FOR LIQUID SCINTILLATION COUNTING

H^3

	Yes	No	NA
Analysis Results			
Results and Minimum Detectable Activity (MDA) Report			
for Sample Analyses, Recounts and Reanalyses	☒	☐	
for Blank Analyses, Recounts and Reanalyses	☒	☐	
for Duplicate Analyses, Recounts and Reanalyses	☒	☐	
Internal Standard or Quench Monitoring Results, Activity and Traceability	☐	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☒	☐	
Sample Preparation Data	☒	☐	
Calculation Sheets	☒	☐	
Sample Identifications	☒	☐	
Instrument Identifications	☒	☐	
Dates of Analysis	☒	☐	
Continuing Calibration			
Instrument Identification	☐	☐	
Continuing Calibration Results Report, Control Charts and Control Limits	☒	☐	
Calibration Standard Identification, Traceability, Activity, Dilution Log and Expiration Date	☒	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☒	☐	
Counting Efficiency Determination Method and Results	☒	☐	
Internal Standard or Quench Monitoring Values	☐	☐	
Matrix Spike Recovery			☒
Results and MDA Reports for Matrix Spike Analyses, Recounts and Reanalyses	☐	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☐	☐	
Sample Preparation Data	☐	☐	
Calculation Sheets	☐	☐	
Matrix Spike Sample Identifications	☐	☐	
Matrix Spike Source Traceability and Dilution Log	☐	☐	
Instrument Identifications	☐	☐	
Dates of Analysis	☐	☐	
Calculated Recoveries	☐	☐	
Laboratory Control Samples (LCS)			
Results and MDA Reports for LCS Analyses, Recounts and Reanalyses	☒	☐	
Raw Data (Counting Logs or Printouts or Notebook Pages)	☒	☐	
Sample Preparation Data	☒	☐	
Calculation Sheets	☒	☐	
LCS Identification, Activity and Traceability	☒	☐	
Instrument Identifications	☒	☐	
Dates of Analysis	☒	☐	
Calculated Recoveries	☒	☐	

9613499.0259

Package ID: B07HH4-TMA-342

VERIFICATION CHECKLIST FOR GAMMA SPECTROSCOPY

Gamma Scan

	Yes	No	NA
Analysis Results			
Results and Minimum Detectable Activity (MDA) Report			
for Sample Analyses, Recounts and Reanalyses	☒	☐	
for Blank Analyses, Recounts and Reanalyses	☒	☐	
for Duplicate Analyses, Recounts and Reanalyses	☒	☐	
Raw Data (Spectra or Printouts or Notebook Pages)	☒	☐	
Sample Preparation Data	☒	☐	
Calculation Sheets	☒	☐	
Sample Identifications	☒	☐	
Detector Identifications	☒	☐	
Detector Efficiencies	☒	☐	
Dates of Analysis	☒	☐	
Laboratory Control Samples (LCS)			
Results and MDA Reports for LCS Analyses, Recounts and Reanalyses	☒	☐	
Raw Data (Geometry and Spectra or Printouts or Notebook Pages)	☒	☐	
Sample Preparation Data	☒	☐	
Calculation Sheets	☒	☐	
LCS Identification, Activity and Traceability	☒	☐	
Detector Identifications	☒	☐	
Detector Efficiencies	☒	☐	
Dates of Analysis	☒	☐	
Calculated Recoveries	☒	☐	

Comments:

Verification terminated 3/9/93 Out of Scope of Project. 3/9/93

Verification No. T-00003-93 **RADIOCHEMICAL DATA PACKAGE VERIFICATION COVER SHEET** Page 1 of 1

Project: 100-KR-1	Reviewer: Sara Lindberg	Date: 3/8/93
Laboratory: TMA	Case: N2-10-224-TM9	SDG: B07HH4
HASM Data Package ID: B07HH4 - TMA - 342		

				Beta and Gas Proportional Counting			Alpha Spectroscopy									
				GAB	Sr90	Tc99	Iso U	Iso Pu	Iso Am	GEA	Ra-226	LSC	Total U	H^3/LSC	C^{14}/LSC	
Analyses Performed:				X	X	X	X	X	X	X				X	X	
Case Narrative:				X	X	X	X	X	X	X				X	X	
Batch Sheet:				X	X	X	X	X	X	X				X	X	
HEIS NO.	Sample Matrix	WHC COC	WHC SAR													
B07HH4	Water	X	X	X	X	X	X	X	X	X				X	X	

9613499.0260

Date: 3 / 8 / 93

RADIOCHEMICAL INITIAL CALIBRATION DATA VERIFICATION CHECKLIST

Laboratory: TMA

HASM Calibration Data Package ID: B07HH4-TMA-342

Required Information	GAB		Sr90		Tc99		GEA		ASp		Ra226											
	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
Date of Initial Calibration:	3/90		1/91																			
Detector ID:	X		X																			
Detector Efficiency:	X		X																			
Lucas Cell ID:																						
Lucas Cell Efficiency:																						
Calibration Standard ID:	X		X		X		X		X													
NIST Certificates:	X		X																			
Initial Calibration Data:	X		X																			
High Voltage Plateau Determination:																						
Self-absorption curve:			X																			
Preparation weight:	X		X		X																	
Carrier Standardization:																						
Alpha crosstalk:																						
Beta crosstalk:																						
FWHM Values:																						
Sample Geometry:																						

Comments:

9613499.0261

Date: 3 / 8 / 93

RADIOCHEMICAL CONTINUING CALIBRATION DATA VERIFICATION CHECKLIST

Laboratory: TMA

HASM Data Package ID: B07HH4-TMA-342

Required Information	GAB		Sr90		Tc99		GEA		ASp		Ra226									
	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
Calibration Time Period, From/To																				
Detector ID:	X																			
Detector Efficiency:																				
Lucas Cell ID:																				
Lucas Cell Efficiency:																				
Check Standard ID:			X		X				X											
Check Standard Activity:			X		X				X											
Check Standard Traceability:			X		X				X											
Check Standard Raw Data:																				
Control Charts:																				
Background Data, CPM:																				
Background Count Time:																				
Background Control Charts:																				
Preparation Weights:			X		X															
Carrier Recovery Checks:																				
Alpha/Beta Cross Talk:																				
FWHM Control Charts:																				
Sample Geometry:																				

Comments: Dates on Prep. Sheets for Tc99 are cut off & cannot read dates

9613499.0262

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HG9

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

Lab Code: SKINER Case No.: N2-10-215SAS No.: SDG No.: B07HG9

Matrix (soil/water): SOIL Lab Sample ID: 10455-03S

Level (low/med): LOW Date Received: 10/27/92

% Solids: 87.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6420			P
7440-36-0	Antimony	3.6	U	N	P
7440-38-2	Arsenic	3.2			F
7440-39-3	Barium	69.6			P
7440-41-7	Beryllium	0.77	B		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	7330			P
7440-47-3	Chromium	8.0			P
7440-48-4	Cobalt	11.5			P
7440-50-8	Copper	21.2			P
7439-89-6	Iron	23200			P
7439-92-1	Lead	14.8		N*	F
7439-95-4	Magnesium	5170			P
7439-96-5	Manganese	359		N	P
7439-97-6	Mercury	0.05	U	N	CV
7440-02-0	Nickel	9.2			P
7440-09-7	Potassium	1230			P
7782-49-2	Selenium	0.88	U	N	F
7440-22-4	Silver	0.54	U		P
7440-23-5	Sodium	218	B		P
7440-28-0	Thallium	0.29	U	W	F
7440-62-2	Vanadium	49.9		*	P
7440-66-6	Zinc	52.3			P
	Cyanide	0.54	U		CA

NV
TBD
5/12/93

Color Before: GREY Clarity Before: Texture: COARSE

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

2

FORM I - IN ILM02.1

7076

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B07HH1

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

Lab Code: SKINER Case No.: N2-10-215SAS No.: SDG No.: B07HG9

Matrix (soil/water): SOIL Lab Sample ID: 10455-01S

Level (low/med): LOW Date Received: 10/27/92

% 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	6110			P
7440-36-0	Antimony	3.5	U	N	P
7440-38-2	Arsenic	1.8	B		F
7440-39-3	Barium	67.1			P
7440-41-7	Beryllium	0.08	U		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	3640			P
7440-47-3	Chromium	10.9			P
7440-48-4	Cobalt	6.9	B		P
7440-50-8	Copper	20.7			P
7439-89-6	Iron	13400			P
7439-92-1	Lead	3.5		SN*	F
7439-95-4	Magnesium	3900			P
7439-96-5	Manganese	246		N	P
7439-97-6	Mercury	0.05	U	N	CV
7440-02-0	Nickel	10.8			P
7440-09-7	Potassium	1110			P
7782-49-2	Selenium	0.80	U	N	F
7440-22-4	Silver	0.52	U		P
7440-23-5	Sodium	237	B		P
7440-28-0	Thallium	0.27	U	W	F
7440-62-2	Vanadium	33.1		*	P
7440-66-6	Zinc	31.2			P
	Cyanide	0.53	U		CA

NV
PBD
5/18/95

Color Before: GREY Clarity Before: Texture: COARSE

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

~~002~~
003

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07HH2

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

Lab Code: SKINER Case No.: N2-10-215SAS No.: SDG No.: B07HG9

Matrix (soil/water): SOIL Lab Sample ID: 10455-02S

Level (low/med): LOW Date Received: 10/27/92

% Solids: 85.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5740			P
7440-36-0	Antimony	3.6	U	N	P
7440-38-2	Arsenic	2.2	B		F
7440-39-3	Barium	50.9			P
7440-41-7	Beryllium	0.20	B		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	3080			P
7440-47-3	Chromium	11.3			P
7440-48-4	Cobalt	5.4	B		P
7440-50-8	Copper	11.3			P
7439-89-6	Iron	11100			P
7439-92-1	Lead	2.8		N*	F
7439-95-4	Magnesium	3660			P
7439-96-5	Manganese	210		N	P
7439-97-6	Mercury	0.05	U	N	CV
7440-02-0	Nickel	10.7			P
7440-09-7	Potassium	1060			P
7782-49-2	Selenium	0.88	U	N	F
7440-22-4	Silver	0.53	U		P
7440-23-5	Sodium	369	B		P
7440-28-0	Thallium	0.32	B		F
7440-62-2	Vanadium	26.9		*	P
7440-66-6	Zinc	27.2			P
	Cyanide	0.57	U		CA

Color Before: GREY Clarity Before: Texture: COARSE

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

BD 5/8/93

004

FORM I - IN ILM02.1

9613499.0266

 Skinner&Sherman REPORT Work Order # S2-10-456

Received: 10/27/92

Results by Sample

SAMPLE ID B07HH1 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 10/20/92 Category SOLID

NO3NO2 3.03
mg N/kg

SAMPLE ID B07HH2 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 10/20/92 Category SOLID

NO3NO2 <2.45 U
mg N/kg

SAMPLE ID B07HG9 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 10/20/92 Category SOLID

NO3NO2 <2.46 U
mg N/kg

SAMPLE ID B07HG9 DUPL SAMPLE # 03 FRACTIONS: B
Date & Time Collected 10/20/92 Category SOLID

NO3NO2 <2.45
mg N/kg

SAMPLE ID B07HG9 SPIKE SAMPLE # 03 FRACTIONS: C
Date & Time Collected 10/20/92 Category SOLID

NO3NO2 19.9
mg N/kg

SAMPLE ID LCSS SAMPLE # 04 FRACTIONS: A
Date & Time Collected not specified Category SOLID

NO3NO2 1.94
mg N/L

NV
PBD
5/18/93

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories Inc. [illegible] ownership of this report until associated submitted 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 court and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the amount [illegible] The results listed refer only to tested samples and applicable parameters. [illegible] is neither inferred nor implied. Skinner & Sherman Laboratories, I[illegible] exercise due diligence but will not be responsible for lost or destroyed samples [illegible] appropriate insurance coverage arrangements. Samples are [illegible] during/after following issuance of report. Samples will be stored at client's request [illegible] in writing.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-720[illegible]
1-800-4LAB TEST FAX (617) 890-3888

9613199.0267

N210224-01

TMA NORCAL
REPORTING GROUP 7119

DATA SHEET

WC

B07HH4

SDG 7119
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210224-01
Dept sample id 7119-001
Received 10/26/92

Client sample id B07HH4
Matrix WATER
Collected 10/22/92
Chain of custody id EFL-1051

(or MB) EB02 FB AD= 2/3/93 RB 4/7/93

PARAMETER	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Gross Alpha	Alpha	-0.15	1.3	2	3	~~U~~ R	80A
Gross Beta	Beta	1.3	0.81	1	4	J	80B
Uranium 233/234		0.18	0.12	0.2	0.2	U	U
Uranium 235	15117-96-1	0.024	0.048	0.2	0.2	U	U
Uranium 238	7440-61-1	0.079	0.080	0.2	0.2	U	U
Plutonium 238	13981-16-3	0.005	0.016	0.03	0.05	U	PU
Plutonium 239/240		0	0.005	0.02	0.05	U	PU
Americium 241	14596-10-2	0.010	0.011	0.01	0.05	J	AM
Strontium 90	10098-97-2	0.14	0.23	0.9	2	U	Y
Technetium 99	14133-76-7	4.1	2.7	8	5	U	TC
Tritium	10028-17-8	29	160	300	400	U	H
Carbon 14	14762-75-5	-13	26	40	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		200		U	GAM
Iron 59		U		100	30	U	GAM
Chromium 51	14392-02-0	U		700		U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Zinc 65	17982-39-3	U		30		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Cesium 134	17967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-67-7	U		20		U	GAM
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	7440-29-1	U		50		U	GAM

5/18/93

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/16/93

9613499.0268

N210224-01

TMA NORCAL
REPORTING GROUP 7119

DATA SHEET

B07HH4

SDG 7119
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N210224-01
Dept sample id 7119-001
Received 10/26/92
Client sample id B07HH4
Matrix WATER
Collected 10/22/92
Chain of custody id EFL-1051

RB 4/7/93

PARAMETER	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	-0.15	1.3	2	3	~~U~~ R	80A
Gross Beta	Beta	1.3	0.81	1	4	J	80B
Uranium 233/234		0.18	0.12	0.2	0.2	U	U
Uranium 235	15117-96-1	0.024	0.048	0.2	0.2	U	U
Uranium 238	7440-61-1	0.079	0.080	0.2	0.2	U	U
Plutonium 238	13981-16-3	0.005	0.016	0.03	0.05	U	PU
Plutonium 239/240		0	0.005	0.02	0.05	U	PU
Americium 241	14596-10-2	0.010	0.011	0.01	0.05	J	AM
Strontium 90	10098-97-2	0.14	0.23	0.9	2	U	Y
Technetium 99	14133-76-7	4.1	2.7	8	5	U	TC
Tritium	10028-17-8	29	160	300	400	U	H
Carbon 14	14762-75-5	-13	26	40	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		200		U	GAM
Iron 59		U		100	30	U	GAM
Chromium 51	14392-02-0	U		700		U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Zinc 65	17982-39-3	U		30		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Cesium 134	17967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-67-7	U		20		U	GAM
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	7440-29-1	U		50		U	GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/16/93

9613499.0269

X02028

WC

000005

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21103R14

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. 5 Date Analyzed: 11/03/92

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	12	BU
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	4	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

RB 3/1/

Blk

EPA SAMPLE NO.

B07HG9

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21103R14

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. 5 Date Analyzed: 11/03/92

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 HYDROCARBON	6.97	5	J

9613499.0271

000007

EPA SAMPLE NO.

B07HH1

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21103R17

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. 3 Date Analyzed: 11/03/92

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	12	~~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

MB 3/1/93 blk cont

EPA SAMPLE NO.

B07HH1

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21103R17

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. 3 Date Analyzed: 11/03/92

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 ALKENE	28.47	44	J

9613499.0273

000009

EPA SAMPLE NO.

B07HH2

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21103R18

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. 2 Date Analyzed: 11/03/92

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	19	~~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 3/1/93

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: B07HH2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 21103R18

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. 2 Date Analyzed: 11/03/92

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 ALKENE	28.42	20	J

9613499.0275

000011

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21030R06

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. ____ Date Analyzed: 10/30/92

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/L

CAS NO.	COMPOUND		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	10	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

PB 3/1/93

9613499.0276

000012
EPA SAMPLE NO.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B07HH3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21030R06

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. ____ Date Analyzed: 10/30/92

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/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

RS
3/1/93

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21030R03

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. ____ Date Analyzed: 10/30/92

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/L

CAS NO.	COMPOUND		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	10	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 31.pm

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07HH4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21030R03

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: not dec. ____ Date Analyzed: 10/30/92

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/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

RB
3/1/93

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-02D

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 21104S14

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

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	840	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	840	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-02D

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 21104S14

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

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	840	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	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	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	840	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 ~~44~~	~~B~~ 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

Lab blk

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07HG9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-02D

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 21104S14

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.73	36000	~~BJ~~ U
2.	UNKNOWN HYDROCARBON	5.93	84000	~~BJ~~
3.	UNKNOWN HYDROCARBON	6.70	5200	~~BJ~~
4.	UNKNOWN HYDROCARBON	6.87	590	~~BJ~~
5.	UNKNOWN KETONE	7.10	280	~~BJ~~
6.	UNKNOWN COMPOUND	21.00	660	J

BB
3/1

9613499.0282

000018

EPA SAMPLE NO.

B07HH1

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-03B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21104S15

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3

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	810	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	810	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	810	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	810	U

A.
31.1

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-03B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21104S15

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	810	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	80	J
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	810	U
534-52-1	4,6-Dinitro-2-methylphenol	810	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	810	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

9613499.0284

EPA 000420.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B07HH1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-03B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 21104S15

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.72	35000	~~BJ~~
2.	UNKNOWN HYDROCARBON	5.93	77000	~~BJ~~
3.	UNKNOWN HYDROCARBON	6.70	4600	~~BJ~~
4.	UNKNOWN HYDROCARBON	6.88	140	J
5.	UNKNOWN KETONE	7.10	200	~~BJ~~
6.	UNKNOWN ALCOHOL	8.17	200	J

RB
5/1/93

9613499.0285

000021

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-04B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21104S18

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

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	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

3/1/9

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-04B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21104S18

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

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	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	330	U
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

MG 3/1/7

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07HH2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-04B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 21104S18

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 10/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.75	41000	~~BJ~~ U
2.	UNKNOWN HYDROCARBON	5.97	87000	~~BJ~~ U
3.	UNKNOWN HYDROCARBON	6.25	300	J
4.	UNKNOWN HYDROCARBON	6.73	4900	~~BJ~~ U
5.	UNKNOWN KETONE	7.13	200	~~BJ~~ U

MA
3/1/93

9613499.0288

000024
EPA SAMPLE NO.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07HH4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21104S03

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/28/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U

MS 3/1

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21104S03

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/28/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	74	
218-01-9	Chrysene	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1905
31.19

9613499.0290

000026
EPA SAMPLE NO.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B07HH4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21104S03

Level: (low/med) LOW Date Received: 10/26/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/28/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

31/93

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HG9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-02D

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

% Moisture: 5 decanted: (Y/N) N Date Received: 10/26/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/29/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/06/92

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	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	UJ
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	UJ
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	UJ
60-57-1	Dieldrin	3.4	UJ
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	UJ
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	UJ
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

Calibrate RSD
RB
3/2/93

9613499.0292

000028

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-03B

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

% Moisture: 3 decanted: (Y/N) N Date Received: 10/26/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/29/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/05/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.3 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	UJ
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	UJ
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	UJ
60-57-1	Dieldrin	3.4	UJ
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	UJ
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	UJ
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

Calib. RSD out MS 2/2/93

9613499.0293

000029
EPA SAMPLE NO.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

B07HH2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A210068-04B

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

% Moisture: 2 decanted: (Y/N) N Date Received: 10/26/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/29/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/05/92

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	UJ
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	UJ
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	UJ
60-57-1	Dieldrin	3.3	UJ
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	UJ
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

Calib RSD out
RB 3/2/93

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07HH4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10068 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210068-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/26/92

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 10/28/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/05/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	UJ
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	UJ
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	UJ
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	UJ
60-57-1	Dieldrin	0.10	UJ
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	UJ
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

Calib RSD out RB 3/2/93