START 713507.1E87 0045894 B079V1-TMA-323 000002

CASE NARRATIVE

NOV 1996 RECEIVED LDMC

LABORATORY : TMA/ARLI

CASE : 10-024

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : October 5, 1992

1.0 DESCRIPTION OF CASE :

Three water 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
B079V1	A2-10-024-01A	V	WATER	7
B079V1 MS	A2-10-024-01B	V	WATER	7
B079V1 MSD	A2-10-024-01C	V	WATER	7
B079V1	A2-10-024-01D	SV & P	WATER	
B079V1 MS	A2-10-024-01E	SV & P	WATER	
B079V1 MSD	A2-10-024-01F	SV & P	WATER	
B079V5	A2-10-024-02A	V	WATER	7
B07B49	A2-10-024-03A	V	WATER	7

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

The samples were received unbroken and properly documented. The samples were received at TMA/NORCAL 3 days after being sent by Westinghouse Hanford Company. Therefore, the samples were not properly refrigerated for 3 days. 3 of the 3 VOA vials for sample B079V5 was received with air bubbles.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL WATER :

The samples were analyzed within the CLP SOW holding times. Sample B09V1MS had a Toluene spike recovery slightly above the QC limit.

All of the other 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. Samples B079V1MS and B079V1MSD had surrogate recoveries for Phenol-d5 and 2-Fluorophenol above the QC limits. Sample B079V1MSD had a high amount of Bis(2-ethylhexyl)-phthalate detected in the sample that exceeded the calibration. This detected concentration was not confirmed in sample B079V1 or B079V1MS. 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.

PESTICIDE/PCB ANALYSIS :

SEQUENCE NOTES :

The sequence was started on 10/21/92 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. Sample B079V1MS had an Endrin spike recovery on the DB-1701 column that was greater than the DB-608 column. This was due to a matrix interference peak that co-eluted with Endrin. Therefore, Endrin had a percent difference between the two GC columns that exceeded the 25% limit and has been "P" qualified.

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

Nicole Roth
CLP Program Manager

Widayati

Wida Ang
Organics Supervisor

9213507.1E90

000005

EPA SAMPLE NO.

B079V1

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B12

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	3	J
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	
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	1	J
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	1	J
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	1	J
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

9213507.1E91

000006

EPA SAMPLE NO.

B079V1

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B12

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (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

9213507.1E92

000007

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079V5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B15

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	3	J
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

9213507.1E93

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B079V5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B15

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (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

9213507.1E94

000009
EPA SAMPLE NO.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

B07B49

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B16

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	
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	1	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

9213507.1E95

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 000010

B07B49

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B16

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (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

9213507.1E96

003611

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079V1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S18

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/07/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

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

9213507.1E97

000012
EPA SAMPLE NO.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B079V1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S18

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/07/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

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	10	U
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

9213507.1E98

000013
EPA SAMPLE NO.

B079V1

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S18

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/07/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.52	2	J
2.	UNKNOWN COMPOUND	21.10	11	J

9213507.1E99

000014

EPA SAMPLE NO.

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B079V1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-01D

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/05/92

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 10/07/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/22/92

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

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 10-024

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : October 5, 1992

1.0 DESCRIPTION OF CASE :

Three water 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
B079V1	A2-10-024-01A	V	WATER	7
B079V1 MS	A2-10-024-01B	V	WATER	7
B079V1 MSD	A2-10-024-01C	V	WATER	7
B079V1	A2-10-024-01D	SV & P	WATER	
B079V1 MS	A2-10-024-01E	SV & P	WATER	
B079V1 MSD	A2-10-024-01F	SV & P	WATER	
B079V5	A2-10-024-02A	V	WATER	7
B07B49	A2-10-024-03A	V	WATER	7

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

The samples were received unbroken and properly documented. The samples were received at TMA/NORCAL 3 days after being sent by Westinghouse Hanford Company. Therefore, the samples were not properly refrigerated for 3 days. 3 of the 3 VOA vials for sample B079V5 was received with air bubbles.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL WATER :

The samples were analyzed within the CLP SOW holding times. Sample B09V1MS had a Toluene spike recovery slightly above the QC limit.

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

9213507.1901

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
RECEIVED
OSM DMO

RECORD COPY

December 18, 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 6, 1992 from TMA/Norcal. The samples were analyzed for the USEPA CLP metals and cyanide. The analysis was performed under TMA/Skinner and Sherman work order S210145.

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 selenium digestion spike recovery 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

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B079V1

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

Lab Code: SKINER Case No.: N2-10-027SAS No.: SDG No.: B079V1

Matrix (soil/water): WATER Lab Sample ID: 10145-01S

Level (low/med): LOW Date Received: 10/06/92

% 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	79.7	B		P
7440-36-0	Antimony	14.8	U		P
7440-38-2	Arsenic	6.5	B		F
7440-39-3	Barium	28.6	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	57200			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	50.4	B		P
7439-92-1	Lead	2.5	B		F
7439-95-4	Magnesium	12500			P
7439-96-5	Manganese	1.1	B		P
7439-97-6	Mercury	0.11	B		CV
7440-02-0	Nickel	2.6	U		P
7440-09-7	Potassium	5130			P
7782-49-2	Selenium	3.9	U	WN	F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	9900			P
7440-28-0	Thallium	3.8	U	W	F
7440-62-2	Vanadium	8.7	B		P
7440-66-6	Zinc	6.3	B		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713507_1903

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355, TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 5188039511

2237M 5188039511

1 Date 10-5-92

RECIPIENT'S COPY

From (Your Name) Please Print: SAMPLE control

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

Company: T M A /NORCAL

Department/Floor No.:

Street Address: 2030 WRIGHT AVE

City: RICHMOND State: CA ZIP Required: 94804

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

Recipient's Phone Number (Very Imp

Company: SKINNER + 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.): 2326

H IF HOLD FOR PICK-UP, Print FEDEX Address Here

Street Address

City State ZIP Required

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

4 SERVICES (Check only one box)

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

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

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

Government Overnight (Restricted for authorized users only)
- 46 [ ] GOVT LETTER
- 41 [ ] GOVT PACKAGE

Freight Service (for packages over 150 lbs.)
- 70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
- 80 [ ] TWO-DAY FREIGHT**

†Delivery commitment may be later in some areas

*Declared Value Limit $500
**Call for delivery schedule.

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

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE
2		
Total 2	Total 63	Total

DIM SHIPMENT (Chargeable Weight) [ ] _____ lbs.

L x W x H

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

Emp. No. Date

[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold

Street Address

City State Zip

Received By: X [signature]

Date/Time Received: 10/06/92 10:00

FedEx Employee Number

7 Release Signature:

Federal Express U.

Base Charges

Declared Value Charg

Other 1

Other 2

Total Charges

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

126

© 1991-92 FEDEX
PRINTED IN U.S.A.

9213507.1504

TMA/Skinner & Sherman Labs SAMPLE LOG-IN
WORKORDER SZ10145 CLIENT Hanford-NOR No. SAMPLES:
PROTCL CLP TURNARND 33 days 1
COOLER TEMP: 4 oC, or NA (Soil) (Water) (Specify Other
CUSTODIAN Benney SDG/BATCH N/A
CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE NZ-10-027
SHIPER & # Fedex # 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 10/6/92
LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

unfiltered

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME U
1	B079V1	WATER	10/6/92	2.16/11.30	TM/CN	CN du 10/13/9
2						
3						
4						
5						HG du 10/23/
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

10/8/92
complete AB

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 ____

* EPA/CLP required Rev 1.6 PAGE:

9213507.1505

PAGE 1 [illegible] CHAIN OF CUSTODY ORD # N2-10-027

RCVD: 10/05/92 DUE: 11/04/92 10/05/92 15:02:22 KEEP: 02/02/93 DISP: S

100-KR-4

DASH	SAMPLE IDENTIFICATION		FILTER		TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01E-W	B079V1		UNFILTERED	EE_1	WH007	WH008	WH010	WH011	WH137
01F-W	B079V1	MS	UNFILTERED	EE_1	WH007	WH009	WH010	WH011	WH137
01G-W	B079V1	DUP	UNFILTERED	EE_1	WH007	WH008	WH010	WH011	WH137
01H-W	L C E			EE_1	WH007	WH008	WH010	WH011	WH137
02A-W	B079V4		FILTERED	EE_1	WH007	WH008	WH010		
02B-W	B079V4	MS	FILTERED	EE	WH007	WH009	WH010		
02C-W	B079V4	DUP	FILTERED	EE	WH007	WH008	WH010		
02D-W	L C E			EE	WH007	WH009	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	10-5-92	SS-1	10-5-92	[signature]	10/6/92

9213507.1506

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
RECEIVED
OSM DMO

December 21, 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 6, 1992 from TMA/Norcal. The samples were analyzed for the USEPA CLP metals. The analysis was performed under TMA/Skinner and Sherman work order S210148.

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 lead 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

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B079V4

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

Lab Code: SKINER Case No.: N2-10-027SAS No.. SDG No.: B079V4

Matrix (soil/water): WATER Lab Sample ID: 10148-015

Level (low/med): LOW Date Received: 10/06/92

% 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	21.4	U		P
7440-36-0	Antimony	16.9	U		P
7440-38-2	Arsenic	2.9	U		F
7440-39-3	Barium	29.8	B		P
7440-41-7	Beryllium	0.60	B		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	55800			P
7440-47-3	Chromium	4.5	U		P
7440-48-4	Cobalt	2.7	U		P
7440-50-8	Copper	3.5	U		P
7439-89-6	Iron	46.0	B		P
7439-92-1	Lead	6.3		N*	P
7439-95-4	Magnesium	12600			P
7439-96-5	Manganese	1.7	U		P
7439-97-6	Mercury	0.11	B		CV
7440-02-0	Nickel	3.4	U		P
7440-09-7	Potassium	5320			P
7782-49-2	Selenium	3.8	U	MWN	F
7440-22-4	Silver	2.5	U		P
7440-23-5	Sodium	10100			P
7440-28-0	Thallium	1.3	U		F
7440-62-2	Vanadium	8.6	B		P
7440-66-6	Zinc	2.7	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLOUDY Artifacts:

Comments:

9213507.1908

TMA/Skinner & Sherman Labs **SAMPLE LOG-IN**
WORKORDER 5210148 CLIENT Hanford-NOR No. SAMPLES:
PROTCL CLP **TURNAROND** _____ 1 _____
COOLER TEMP: 4 oC, or NA (Soil) (Water) (Specify Other
CUSTODIAN A. Benney SDG/BATCH N/A
CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N2-10-027
SHIPER & # _____ 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 10/6/92
LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

Field Filtered

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME U
1	B079V4	water	10/6/92	2.07	TM	HG due 10/27/9
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						

complete 10/8/92 AB

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 _____

* EPA/CLP required Rev 1.6 PAGE:

9213507.1909

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-027

RCVD: 10/05/92 DUE: 11/04/92 10/05/92 15:02:22 KEEP: 02/02/93 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	B079V1	UNFILTERED	SS_1 (3)	WH007	WH008	WH010	WH011	WH137
01F-W	B079V1 MS	UNFILTERED	SS_1 (3)	WH007	WH008	WH010	WH011	WH137
01G-W	B079V1 DUP_	UNFILTERED	SS_1 (3)	WH007	WH008	WH010	WH011	WH137
01H-W	L C S		SS_1 (3)	WH007	WH008	WH010	WH011	WH137
02A-W	B079V4	FILTERED	S&S (1)	WH007	WH008	WH010		
02B-W	B079V4 MS	FILTERED	S&S	WH007	WH008	WH010		
02C-W	B079V4 DUP	FILTERED	S&S	WH007	WH008	WH010		
02D-W	L C S		S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Eyamamoto	10-5-92	SS-1	10-5-92	[illegible]	10/6/92

GENERAL CHEMISTRY RESULTS

CASE NO. 10-024

Water Sample #:

B079V1

CASE NARRATIVE

Sample B079V1 (A2-10-024-01) yielded a 35% recovery for the Phosphate analysis. The low Phosphate recovery compared to our laboratory sample indicated the presence of a matrix interference.

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

Ernesto Vazquez

Ernesto Vazquez

9213507.1511

000008

TMA Inc. REPORT Work Order # A2-10-024

Received: 10/05/92 12/07/92 08:34:32

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

PREPARED Thermo Analytical, Inc.
BY 160 Taylor Street
Monrovia, CA 91016

ATTEN Ms. Carole Harris
PHONE 818-357-3247

CERTIFIED BY Ernesto Vázquez

CONTACT EVV CIH

CLIENT WHC SAMPLES 4
COMPANY Westinghouse Hanford Company
FACILITY

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

WORK ID 100-KR-4
TAKEN By Westinghouse Staff
TRANS By Federal Express
TYPE Liquid
P.O. # N2-10-027-SU-AR
INVOICE under separate cover

SAMPLE IDENTIFICATION

01	B079V1
01	B079V1 MS
01	B079V1 MSD
01	B079V1
01	B079V1 MS
01	B079V1 MSD
01	B079V1
01	B079V1 MS
01	B079V1 Duplicate
01	B079V1
01	B079V1 Duplicate
01	B079V1
01	B079V1 MS
01	B079V1 Duplicate
01	B079V1
01	B079V1 MS
01	B079V1 Duplicate
02	B079V5
03	B07B49
04	Wet Chemistry Blank

TEST CODES and NAMES used on this workorder

BNCLPW	CLP Semivol. Water - WH020
PECLPL	CLP Pesticides Liq.-WH019
SULFID	Sulfide-Dissolved (water)
VOCLPL	CLP Volatile Org.Liq.
WCCLPL	Anions & Wet Chem. - WH043
WCL L	Chloride - WH120
WCQCD	Quality Control Summary
WCQCS	Quality Control Summary
WF L	Fluoride in Water
WNH3 L	Ammonia in Water - WH140
WPH L	pH of Liquid - WH121
WPO4 L	Phosphate in Liquids
WSO4 L	Sulfate (in Waters)
W ALK	Alkalinity - WH131
W COD	COD Water - WH132
W COND	Conductivity-Water WH135
W TDS	Dissolved Solids WH128

TMA Inc. REPORT Work Order # A2-10-024

eived: 10/05/92 Results by Sample

PLE ID B079V1 FRACTION 01G TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/29/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	4.4	mg/L	0.2
Fluoride	300.0	0.3	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	150.1	8.1	pH	0.1
Sulfate	300.0	33	mg/L	1
Elect. Conductivity	120.1	421	umho/cm	6

FORM I

9213507.1913

TRA Inc. REPORT

Work Order # A2-10-024

:ceived: 10/05/92

Results by Sample

\MPLE ID B079V1 FRACTION 01J TEST CODE WCCLPL NAME Anions & Wet Chem. - WM043

Date & Time Collected 09/29/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	102	mg/L	2
Tot. Dissolved Solids	160.1	306	mg/L	5

FORM I

TMA Inc. REPORT

Work Order # A2-10-024

eived: 10/05/92

Results by Sample

PLE ID B079V1 FRACTION 01L TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/29/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

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

FORM I

TNA Inc. REPORT

Work Order # A2-10-024

ceived: 10/05/92

Results by Sample

MPLE ID B079V1 FRACTION 010 TEST CODE WCCLPL NAME Anions & Wet Chem. - WN043

Date & Time Collected 09/29/92 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

PAGE 1 CHAIN OF CUSTODY ORD # N2-10-027

RCVD: [illegible] 10/05/92 15:02:21 KEEP: 02/02/93 DISP: S

DASH	SAMPLE IDENTIFICATION			FILTER	TESTS AND FRACTIONS with work in DEPT: SU and CATEGORY						
01A-W	B079v1		UNFILTERED	ARLI (3)	WH018	WH019	WH020	WH043	WH114	WH121	WH122
					WH128	WH131	WH132	WH140			
01C-W	B079v1		UNFILTERED	ARLI	WH018	WH019	WH020	WH043	WH114	WH140	
01D-S	B079v1	MSC	UNFILTERED	ARLI	WH018	WH019	WH020				
01E-W	BG79v1	DUP	UNFILTERED	ARLI	WH043	WH114	WH121	WH122	WH128	WH131	WH132
					WH140						
03A-W	B079v5			ARLI (3)	WH018						
04A-W	B07B49			ARLI (3)	WH018						

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	10-5-92	ARLI-1	10-5-92	Trudy [illegible]	10/6/92

9213507.1517

000002A

OFFICE OF SAMPLE MANAGEMENT

RECORD OF DISPOSITION

ROD-92-00180
Record of Disposition No.

DATE: October 29, 1992

LABORATORY: TMA

PROJECT TITLE/NO.: 100-KR-4

NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS:

▸▸ B079V1 ▸ B079V4 ▸ B079V5 ▸ B07~~9~~49 B

DESCRIPTION OF EVENT:

▸▸ Samples were received at the TMA Laboratory warm (11°c instead of 4°c). The samples were sent out on Friday (10/09/92) and received on Monday (10/05).

DISPOSITION OF SAMPLES:

▸▸ With concurrence with J. W. Roberts, permission has been given to the laboratory to proceed with the analysis.

APPROVAL SIGNATURES:

K. N. Pool — 10/29/92
OSM Project Coordinator (Print/Sign Name) — Date

J. W. Roberts — 11/2/92
Technical Representative (Print/Sign Name) — Date

N/A
Quality Assurance (Print/Sign Name) — Date

TMA/ARLI
Thermo Analytical Inc.

9213507.1918

000003

RADIATION DOSE RATE SURVEY FORM

Date 10/06/92 COMPANY NORCAL (WHC) OTHER ORD # 5188039544

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, dCi/ml, or BQ/g
Background		35.0			0				
Consistency		7,340	0.2833		5,018	0.1844			
Smears: HOWARD		36.0			10				
18 RHV		32.0			0				
WHC #8		34.0			3.0				
Reported (WHC)	77 samples each < 50 pCi/gram							—	—
	+ N2-10-027	TOTAL ACTIVITY			5.74	E+2	pCi/gram		
	(B079V1)								
	(B079V5)								
	(B07B49)								

Comments:

All OK ✓ Approved [signature]

Not OK Date 10/06/92

Form: ARLI RA-01
Rev: 06

01/15/92

AIRBILL
PACKAGE TRACKING NUMBER 5188039544

2237M 5188039544

1 0941-5760-9 10-5-92

Sample control 510-235-2633

T M A /NORCAL

2030 WRIGHT AVE

RICHMOND CA 94804

2 Sample control

Company TMA/ARL

Street Address 160 Taylon street

MONROVIA CA 91016

2320

3 X

4 X

5 DELIVERY AND SPECIAL HANDLING

X DELIVER WEEKDAY

DELIVER SATURDAY

DRY ICE

OTHER SPECIAL SERVICE

EXPRESS CORRECTION

SATURDAY PICK-UP

6 3

3 175

DIM SHIPMENT (Chargeable Weight)

X

7 Release Signature

H IF HOLD FOR PICK-UP Prior FEDEX Address

Street Address

City

ZIP

Emp No

Date

Street Address

City

Received By

X

Date/Time Received

126

DESTINATION COPY

5188039544

5188039544

SAMPLE LOG-IN SHEET

000005

LAB NAME : TMA/ARLI 9213507.1520 PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): Trudy L Golub LOG-IN-DATE : 10/7/92

RECEIVED BY (SIGNATURE): Trudy L 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.: 5188039544
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: 10/6/92
12. Temp of ice chest 4.0 °C
13. Time Recieved: 1015

SAMPLE TRANSFER

Fraction:
Area #:
By:
On:

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B079V1	A2-10-024-01	
	B079V5	A2-10-024-02	
	B07B49	A2-10-024-03	

* Contact SMO and attach record of resolution

Reviewed By: Logbook No.:

Date: Logbook Page No.:

FORM DC-1

00C2/LOGIN.TBL

9713507.1521

000001 2/10/93

Page 1 Skinner&Sherman REPORT Work Order # S2-10-147

Received: 10/06/92 12/11/92 13:42:46

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 N2-10-027
TAKEN By Client
TRANS Fedex
TYPE 1 Water (NO3NO2)
P.O. # N2-10-027
INVOICE under separate cover

SAMPLE IDENTIFICATION

01 B079V1
01 B079V1D
01 B079V1S
02 LCSW

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

TMA
ermo Analytical Inc.
inner & 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

00

Page 2 Skinner&Sherman REPORT Work Order # S2-10-147

Received: 10/06/92 Results by Sample

SAMPLE ID B079V1 SAMPLE # 01 FRACTIONS: A

Date & Time Collected 09/29/92 Category WATER

NO3NO2 20.2
mg N/L

SAMPLE ID B079V1D SAMPLE # 01 FRACTIONS: B

Date & Time Collected 09/29/92 Category WATER

NO3NO2 20.6
mg N/L

SAMPLE ID B079V1S SAMPLE # 01 FRACTIONS: C

Date & Time Collected 09/29/92 Category WATER

NO3NO2 21.8
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.

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

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

Received: 10/06/92

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

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

9213507.1924

000024

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-027

RCVD: 10/05/92 DUE: 11/04/92 10/05/92 15:02:22 KEEP: 02/02/93 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	B079V1	UNFILTERED	SS_1 (3)	WH007	WH008	WH010	WH011	WH137
01F-W	B079V1 MS	UNFILTERED	SS_1 (3)	WH007	WH008	WH010	WH011	WH137
01G-W	B079V1 DUP	UNFILTERED	SS_1 (3)	WH007	WH008	WH010	WH011	WH137
01H-W	L C S		SS_1 (3)	WH007	WH008	WH010	WH011	WH137
02A-W	B079V4	FILTERED	S&S (1)	WH007	WH008	WH010		
02B-W	B079V4 MS	FILTERED	S&S	WH007	WH008	WH010		
02C-W	B079V4 DUP	FILTERED	S&S	WH007	WH008	WH010		
02D-W	L C S		S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	10-5-92	SS-1	10-5-92	[illegible]	10/6/92

9213507.1925

000025

000001

10-147

kinner & Sherman Labs **SAMPLE LOG-IN**

RDER 5210147 CLIENT Hanford-NOR No. SAMPLES:

L CLP TURNARND 33 days 1

R TEMP: 4 oC, or NA (Soil) (Water) (Specify Other)

DIAN Benney, A. SDG/BATCH N/A

DY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N2-10-027

R & # Fedex PO/CONTRACT# ↓

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

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

E CONTAINERS-INTACT/BROKEN COMMENTS

T COMMENT? YES/NO

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

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

ENT DATES 10/6/92

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

N/A

ENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
D79V1	water	10/6/92	2.24	NO3NO2	DUE 10/27/92

10/8/92

Complete AB

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

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

ONTRACT: YES/NO, TO: ___ DATE: ___

EWED ___

A/CLP required Rev 1.6 PAGE:

ssociated submitted invoice is satis
nd accepted, before the analysis. C
s. Total liability is limited to the inv
inner & Sherman Laboratories, Inc.
age arrangements. Samples are hel

-0521 (617) 890-7200

Page 2 Skinner&Sherman REPORT Work Order # S2-10-147

Received: 10/06/92 Results by Sample

SAMPLE ID B079V1 SAMPLE # 01 FRACTIONS: A

Date & Time Collected 09/29/92 Category WATER

NO3NO2 20.2

mg N/L

SAMPLE ID B079V1D SAMPLE # 01 FRACTIONS: B

Date & Time Collected 09/29/92 Category WATER

NO3NO2 20.6

mg N/L

SAMPLE ID B079V1S SAMPLE # 01 FRACTIONS: C

Date & Time Collected 09/29/92 Category WATER

NO3NO2 21.8

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.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfie Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Clie will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoic amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. wi exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held fc 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 4 Skinner&Sherman REPORT Work Order # S2-10-147

Received: 10/06/92 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

9213507.1928

000024

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-027

RCVD: 10/05/92 DUE: 11/04/92 10/05/92 15:02:22 KEEP: 02/02/93 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	B079V1	UNFILTERED	SS_1 (3)	WH007	WH008	WH010	WH011	WH137
01F-W	B079V1 MS	UNFILTERED	SS_1 (3)	WH007	WH008	WH010	WH011	WH137
01G-W	B079V1 DUP	UNFILTERED	SS_1 (3)	WH007	WH008	WH010	WH011	WH137
01H-W	L C S		SS_1 (3)	WH007	WH008	WH010	WH011	WH137
02A-W	B079V4	FILTERED	S&S (1)	WH007	WH008	WH010		
02B-W	B079V4 MS	FILTERED	S&S	WH007	WH008	WH010		
02C-W	B079V4 DUP	FILTERED	S&S	WH007	WH008	WH010		
02D-W	L C S		S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	10-5-92	SS-1	10-5-92	[illegible]	10/6/92

9213507.1529

000025

TMA/Skinner & Sherman Labs **SAMPLE LOG-IN**

WORKORDER 5210147 CLIENT Hanford-NOR No. SAMPLES:

PROTCL CLP TURNAROUND 33 days | | |

COOLER TEMP: 4 oC, or NA (Soil) (Water) (Specify Other)

CUSTODIAN Benney, A. SDG/BATCH N/A

CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N2-10-027

SHIPER & # Fedex 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 10/6/92

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

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
1	B079V1	water	10/6/92	2.24	NO3NO2	DUE 10/27/92
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						

10/8/92

complete AB

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 ____

* EPA/CLP required Rev 1.6 PAGE:

9213507.1530

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 4, 1993

Ref. TMA/Norcal N2-09-172-7110

Mr. John Bourgeault
Westinghouse Hanford Company
2355 Stevens Drive
Richland, WA 99352

Dear Mr. Bourgeault:

Enclosed is a corrected copy of the Summary Data Section for the report TMA/Norcal N2-09-172-7110. The original Summary Data Section (dated February 1, 1993) listed the Westinghouse Hanford sample ID's as B079V1, B07B16, B07BX1, and B07BX6. The samples ID's listed on the original chains-of-custody documents for SDG 7110 are B079V1, B07B16, B079X1, and B079X6. The enclosed Summary Data Section now contains the correct Westinghouse Hanford sample ID's.

Please call if you have any further questions concerning this data.

Sincerely

N. Joseph Verville

N. Joseph Verville
Asst. Manager, Nuclear Programs

Enclosures: Summary Data Section, SDG 7110

SDG	7110	Client	Westinghouse Hanford
Contact	Dinkar P. Kharkar	Contract	MBH-SVV-069262

CASE NARRATIVE

1.0 GENERAL

Water sample results from 100-KR-4 location (TMA/Norcal Group 7110) are reported herein. TMA/Norcal Group 7110 is comprised of the four samples listed in the Chain-of-Custody documents and are identified as samples 1 through 4.

1.1 CHAINS-OF-CUSTODY

This report includes data from samples delivered under Chain-of-Custody documents Field Logbook No. EFL-1048.

1.2 SAMPLE VOLUME

4 L and 1 L plastic bottles, and 250 mL glass bottles containing the samples were received for the analyses.

1.3 MISSING SAMPLES

All samples were accounted for and received in undamaged condition.

1.4 HOLDING TIMES

Samples were collected between 9/29/92 and 9/30/92 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 7110-5 through 9.

The QC samples were prepared and labelled by the quality control officer. Copies of The QC notebook pages are included in the data package.

001B
2/17/93

SDG	7110	Client	Westinghouse Hanford
Contact	Dinkar P. Kharkar	Contract	MBH-SVV-069262

CASE NARRATIVE

2.1 LABORATORY CONTROL SAMPLES

The LCS recoveries for samples were good except for ^{241}Am, ^{90}Sr and ^{14}C with recoveries of -1%, 52% and 79%, did not pass at the 3σ protocol limits. No cause could be determined for the low ^{241}Am recovery. Since a sequential chemistry procedure was used for the plutonium and americium separation, we looked at the ^{239}Pu results and found that it was the correct QC sample. The ^{241}Am yield looked good, indicating that we did not lose americium after plutonium separation. There was no sample with positive ^{241}Am in QC batch 7110 which indicated to us that there was no switch. Also, the long count of this sample agreed with the sample precount. We are still investigating the low found/added ratio of the LCS. The ^{90}Sr recovery is within the 3σ limits when errors are taken into account. The ^{14}C recovery was low due to a slightly low spiking efficiency. The ^{59}Fe MDA was high due to the short half-life of ^{59}Fe and the fact that the MDA was wongly calculated at T_0, the time of sample collection, instead of at the time of count. The 2σ error for ^{90}Sr was underlined because the counting error was bigger than both the MDA and the result implying that the MDA may not be a good indication of the real minimum detectable activity.

2.2 BLANKS

MDA's for all the analyses meet the RDL requirements except for ^{238}Pu. The higher MDA for ^{238}Pu was due to high coumter background. The result for ^{14}C is underlined as the result plus the 2σ error is a still negative number.

2.3 REPLICATES

Results were satisfactory for all replicate analyses except for ^{14}C. The results for the sample and its replicate were both at a low level and therefore less precise and therefore have an uncertainty beyond counting statistics. We will continue the investigation by realiquoting several times to test the reproducibility. The high MDA for ^{99}Tc was due to the combination of a low chemical yield and a shorter count time. The high MDA for ^{59}Fe was due to the short half-life of ^{59}Fe. The 2σ error for ^{90}Sr was underlined because the counting error was bigger than both the MDA and the result implying that the MDA may not be a good estimate of the real minimum detectable activity.

3.0 ANALYTICAL NOTES

3.1 Gross Alpha Analyses: The average MDA for gross alpha was (3 $\pm$ 1) pCi/L. A positive gross alpha concentration above the RDL was found in samples 7110-1. The results of the remaining samples were less than the MDA. The residues on planchets 7110-1 and 2 were higher than the nominal residue weight limit of 5-150 mg.

001C
2/17/93

SDG	7110	Client	Westinghouse Hanford
Contact	Dinkar P. Kharkar	Contract	MBH-SVV-069262

CASE NARRATIVE

3.0 ANALYTICAL NOTES cont'd.

3.2 Gross Beta Analyses: The average MDA for gross beta was (2 ± 1) pCi/L. A positive gross beta concentration above RDL was found sample 7110-1. Again the residues on planchets 7110-1 and 2 were higher than the nominal residue weight limit of 5-150 mg.

3.3 Tritium Analyses: The average MDA for seven analyses was (300 ± 0) pCi/L. Positive ^{3}H concentrations above the RDL were found in all the samples except 7110-1. Sample 7110-4 was counted for only one minute because of the high concentration of ^{3}H in the sample.

3.4 Carbon-14 Analyses: The average MDA for seven analyses was (50 ± 10) pCi/L. Positive ^{14}C concentrations were found in all the samples. The counting times for samples 7110-3 and 4 were less than the nominal counting time of 150 minutes.

3.5 Strontium-90 Analyses: The average yield for seven analyses was (76 ± 14)%. The lowest yield was 65% and the highest was 84%. The average MDA was (0.9 ± 0.2) pCi/L. Positive ^{90}Sr concentrations above the RDL were found in samples 7110-2 and 3. The results of the remaining samples were less than the MDA.

3.6 Technicium-99 Analyses: The average yield for nine analyses was (40 ± 31)%. The lowest yield was 27% and the highest was 62%. The average MDA was (5 ± 10) pCi/L. Positive concentrations above the RDL were not found in any of the samples. The MDA's for samples 7110-1 and 2 were higher than the RDL due to low chemical recoveries and slightly shortened counting times.

3.7 Uranium-233, 234, 238 Analyses: The average yield for seven analyses was (65 ± 35)%. The lowest yield was 37% and the highest was 85%. The average MDA was (0.1 ± 0.1) pCi/L. Positive concentrations of ^{234}U and ^{238}U were found in all samples.

3.8 Plutonium-238, 239/240 Analyses: The average yield for seven analyses was (43 ± 12)%. The lowest yield was 35% and the highest was 50%. The average MDA was (0.04 ± 0.03) pCi/L. Positive plutonium concentrations above the RDL was not found in any of the samples. All sample results were below the MDA. Sample 7110-4 had a higher MDA due to a low chemical recovery. All samples were counted for slightly less time than the nominal count time of 700 minutes.

001D
RW 2/17/93

SDG	7110	Client	Westinghouse Hanford
Contact	Dinkar P. Kharkar	Contract	MBH-SVV-069262

CASE NARRATIVE

3.9 Americium-241 Analyses: The average yield for seven analyses was (74 ± 43)%. The lowest yield was 26% and the highest yield was 88%. The average MDA was (0.04 ± 0.02) pCi/L. Positive americium concentrations above the RDL were not found in any of the samples. All sample results were below the MDA. Most of the samples were counted for slightly less time than the nominal 700 minutes.

3.10 Gamma Scan Analyses: The gamma scan analysis did not find positive concentrations of gamma nuclides in any of the samples.

001E
2/17/93

9213507.1935

TMA NORCAL
REPORTING GROUP 7110

DATA SHEET

N209172-04

B079V1

SDG 7110
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N209172-04
Dept sample id 7110-004
Received 10/05/92

Client sample id B079V1
Matrix WATER
Collected 09/29/92
Chain of custody id EFL-1048

PARAMETER	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	2.8	2.1	2	3	J	80A
Gross Beta	Beta	9.3	1.7	2	4		80B
Uranium 233/234		1.4	0.33	0.2	0.2		U
Uranium 235	15117-96-1	0.070	0.070	0.1	0.2	U	U
Uranium 238	7440-61-1	0.86	0.25	0.1	0.2		U
Plutonium 238	13981-16-3	-0.010	0.019	0.06	0.05	U	PU
Plutonium 239/240		0.005	0.019	0.04	0.05	U	PU
Americium 241	14596-10-2	0.002	0.021	0.04	0.05	U	AM
Strontium 90	10098-97-2	0.18	2.7	0.8	2	U	Y
Technetium 99	14133-76-7	1.3	1.2	2	5	U	TC
Tritium	10028-17-8	1600000	32000	300	400		H
Carbon 14	14762-75-5	16000	170	50	50		C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		90		U	GAM
Iron 59		U		50	30	U	GAM
Chromium 51	14392-02-0	U		400		U	GAM
Cobalt 60	10198-40-0	U		8	30	U	GAM
Zinc 65	17982-39-3	U		20		U	GAM
Ruthenium 106	13967-48-1	U		70		U	GAM
Cesium 134	17967-70-9	U		8		U	GAM
Cesium 137	10045-97-3	U		7	20	U	GAM
Europium 152	14683-23-9	U		10	40	U	GAM
Europium 154	15585-10-1	U		9	40	U	GAM
Radium 226	13982-67-7	U		20		U	GAM
Thorium 228	14274-82-9	U		10		U	GAM
Thorium 232	7440-29-1	U		30		U	GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/04/93

9213507.1536

N209172-03

TMA NORCAL
REPORTING GROUP 7110

DATA SHEET

B079X1

SDG 7110
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N209172-03
Dept sample id 7110-003
Received 10/02/92

Client sample id B079X1
Matrix WATER
Collected 09/30/92
Chain of custody id EFL-1048

PARAMETER	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	2.3	2.0	2	3	J	80A
Gross Beta	Beta	5.7	1.5	2	4		80B
Uranium 233/234		2.2	0.39	0.2	0.2		U
Uranium 235	15117-96-1	0.098	0.084	0.1	0.2	U	U
Uranium 238	7440-61-1	1.9	0.36	0.1	0.2		U
Plutonium 238	13981-16-3	0.004	0.015	0.04	0.05	U	PU
Plutonium 239/240		-0.004	0.007	0.03	0.05	U	PU
Americium 241	14596-10-2	0.031	0.019	0.02	0.05	J	AM
Strontium 90	10098-97-2	4.5	0.48	0.8	2		Y
Technetium 99	14133-76-7	1.9	1.2	2	5	U	TC
Tritium	10028-17-8	7000	370	300	400		H
Carbon 14	14762-75-5	17000	190	60	50		C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		200		U	GAM
Iron 59		U		60	30	U	GAM
Chromium 51	14392-02-0	U		400		U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Zinc 65	17982-39-3	U		20		U	GAM
Ruthenium 106	13967-48-1	U		90		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		10	40	U	GAM
Radium 226	13982-67-7	U		30		U	GAM
Thorium 228	14274-82-9	U		10		U	GAM
Thorium 232	7440-29-1	U		40		U	GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/04/93

9213507.1937

TMA NORCAL
REPORTING GROUP 7110

N209172-02

DATA SHEET

B079X6

SDG 7110
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N209172-02
Dept sample id 7110-002
Received 10/01/92

Client sample id B079X6
Matrix WATER
Collected 09/29/92
Chain of custody id EFL-1048

PARAMETER	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	1.9	1.9	2	3	U	80A
Gross Beta	Beta	71	2.4	1	4		80B
Uranium 233/234		2.3	0.36	0.1	0.2		U
Uranium 235	15117-96-1	0.16	0.092	0.09	0.2	J	U
Uranium 238	7440-61-1	1.8	0.31	0.09	0.2		U
Plutonium 238	13981-16-3	-0.004	0.014	0.03	0.05	U	PU
Plutonium 239/240		0.014	0.014	0.03	0.05	U	PU
Americium 241	14596-10-2	-0.016	0.018	0.04	0.05	U	AM
Strontium 90	10098-97-2	24	5.4	1	2		Y
Technetium 99	14133-76-7	-2.2	5.2	20	5	U	TC
Tritium	10028-17-8	8700	410	300	400		H
Carbon 14	14762-75-5	12000	140	50	50		C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		80		U	GAM
Iron 59		U		50	30	U	GAM
Chromium 51	14392-02-0	U		400		U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Zinc 65	17982-39-3	U		20		U	GAM
Ruthenium 106	13967-48-1	U		70		U	GAM
Cesium 134	17967-70-9	U		8		U	GAM
Cesium 137	10045-97-3	U		8	20	U	GAM
Europium 152	14683-23-9	U		10	40	U	GAM
Europium 154	15585-10-1	U		9	40	U	GAM
Radium 226	13982-67-7	U		10		U	GAM
Thorium 228	14274-82-9	U		10		U	GAM
Thorium 232	7440-29-1	U		30		U	GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/04/93

9213507.1938

TMA NORCAL
REPORTING GROUP 7110

N209172-01

DATA SHEET

B07B16

SDG 7110
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N209172-01
Dept sample id 7110-001
Received 10/01/92

Client sample id B07B16
Matrix WATER
Collected 09/29/92
Chain of custody id EFL-1048

PARAMETER	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	3.9	2.2	3	3		80A
Gross Beta	Beta	21	1.5	1	4		80B
Uranium 233/234		2.4	0.36	0.1	0.2		U
Uranium 235	15117-96-1	0.15	0.086	0.1	0.2	J	U
Uranium 238	7440-61-1	1.8	0.29	0.07	0.2		U
Plutonium 238	13981-16-3	-0.004	0.023	0.05	0.05	U	PU
Plutonium 239/240		0.015	0.015	0.03	0.05	U	PU
Americium 241	14596-10-2	0.005	0.019	0.04	0.05	U	AM
Strontium 90	10098-97-2	0.33	1.6	1	2	U	Y
Technetium 99	14133-76-7	0.57	2.4	8	5	U	TC
Tritium	10028-17-8	390	180	300	400	J	H
Carbon 14	14762-75-5	150	28	40	50		C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		100		U	GAM
Iron 59		U		70	30	U	GAM
Chromium 51	14392-02-0	U		600		U	GAM
Cobalt 60	10198-40-0	17	8.4		30	J	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		10	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 02/04/93

9213507.1539

N240-004

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 9-29-92

Ice Chest No. ORG-2

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2521567873

Offsite Property No. W92-0-0643-19

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks N/A

Sample Identification

B0 7B16

1, 1L, P, WATER, CLP-ICP/AA METALS & Hg (HNO3) UNFILTERED
1, 1L, P, WATER, CLP-CYANIDE (NaOH)
3, 40ml, Gs, WATER, CLP-VOA
3, 2L, aG, WATER, CLP-SEMI-VOA & PCB/PEST
1, 1L, P, WATER, ANIONS(IC) (SO4,F,PO4,Cl), COND., pH
2, 4L, P, WATER, GROSS ALPHA/BETA, GAMMA SPEC, ALPHA SPEC (U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3)
, 250ml/ ~~1, 500ml~~, Gs, WATER, TRITIUM, C-14
1, 500ml, P, WATER, ANIONS(NO2,NO3) (H2SO4)
9-29-92
1, 1L, G, WATER, ALKALINITY, TOTAL DISSOLVED SOLIDS
1, 500ml, G, WATER, SULFIDE (ZINC ACETATE+NaOH pH>9)
1, 500ml, G, WATER, AMMONIA, CHEMICAL OXYGEN DEMAND (H2SO4 pH<2)
1, 1L, P, WATER, Tc-99 (HNO3)

B0 7B19

1, 1L, P, WATER, CLP-ICP/AA METALS & Hg (HNO3) FILTERED

B0 7B20

3, 40ml, Gs, WATER, CLP-VOA

B07B50 3, 40ml, Gs, WATER, CLP-VOA

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: L.D. Walker LD Walker	Received by: AJ SIMPSON AJ Simpson	Date/Time: 9/30/92 1030
Relinquished by: AJ SIMPSON AJ Simpson	Received by: Elky A. Yamamoto	Date/Time: 10-1-92 11:30
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

9213507.1540

3c 70411

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

llector K. Lee, L. Walker, G. Hamilton, C. Celiberti Date Sampled 9/29/92 Time ~~1145~~ 0908 ATS 9/30/92 hours

mpany Contact P. H. Butcher Telephone (509) 376-5045

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested	
07B16	1; 1L; P;	WATER	CLP ICP/AA METALS & Hg (HNO3) UNFILTERED	S
	1; 1L; P	WATER	CLP-CYANIDE (NaOH)	S
	3; 40ml; Gs	WATER	CLP-VOA	A
	3; 2L; aG	WATER	CLP-SEMI-VOA & PCB/PEST	A
	1; 1L; P	WATER	ANIONS (IC) (SO4,F,PO4,Cl); CONDUCTIVITY; pH	A
	2; 4L; P	WATER	GROSS ALPHA/BETA, GAMMA SPEC, ALPHA SPEC	
			(U-235/238, Pu-239/240, Am-241), Sr-90; (HNO3)	
	2; 250 ML ATS 9/30/92 ~~1; 500mL~~; Gs	WATER	TRITIUM, C-14	
	1; 500mL; P	WATER	ANIONS (NO2/NO3) (H2SO4)	S
	1; 1L; G	WATER	ALKALINITY, TOTAL DISSOLVED SOLIDS	A
	1; 500mL; G	WATER	SULFIDE (ZINC ACETATE PLUS NaOH pH>9)	A
	1; 500mL; G	WATER	AMMONIA, CHEMICAL OXYGEN DEMAND (H2SO4	A
	1; 1L; P	WATER	Tc-99 (HNO3)	
07B19	1; 1L; P	WATER	CLP-ICP/AA METAL & MERCURY (HNO3) FILTERED	S
07B20	3; 40mL; Gs	WATER	CLP-VOA	A
07B50	3; 40mL; Gs	WATER	CLP-VOA	A

Field Information** OPC: W92-0-0643-19

BOL: 2521567873

TASK: 92-266

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Elby J. Yamamoto Title Sample Control Technician Date 10-1-92

Analysis Required 053

Indicate whether sample is soil, sludge, water, etc.

Use back of page for additional information relative to sample location.

A-6000-406(05/90)

9213507.1541

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 9-29-92

Ice Chest No. SML-207

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2521567873

Offsite Property No. W92-0-0643-19

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks N/A

Sample Identification

B0 79X6

1, 1L, P, WATER, CLP-ICP/AA METALS & Hg (HNO3) UNFILTERED
1, 1L, P, WATER, CLP-CYANIDE (NaOH)
3, 40ml, Gs, WATER, CLP-VOA
3, 2L, aG, WATER, CLP-SEMI-VOA & PCB/PEST
1, 1L, P, WATER, ANIONS(IC) (SO4,F,PO4,Cl), COND., pH
2, 4L, P, WATER, GROSS ALPHA/BETA, GAMMA SPEC, ALPHA SPEC (U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3)
250 ~~1, 500ml~~, Gs, WATER, TRITIUM, C-14
1, 500ml, P, WATER, ANIONS(NO2,NO3) (H2SO4)
9-29-92 1, 1L, G, WATER, ALKALINITY, TOTAL DISSOLVED SOLIDS
1, 500ml, G, WATER, SULFIDE (ZINC ACETATE+NaOH pH>9)
1, 500ml, G, WATER, AMMONIA, CHEMICAL OXYGEN DEMAND (H2SO4 pH<2)
1, 1L, P, WATER, Tc-99 (HNO3)

B0 79X9

1, 1L, P, WATER, CLP-ICP/AA METALS & Hg (HNO3) FILTERED

B0 79Y0

3, 40ml, Gs, WATER, CLP-VOA

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: L.D. Walker LD Walker	Received by: AJ SIMPSON AJ Simpson	Date/Time: 9/30/92 1035
Relinquished by: AJ SIMPSON AJ Simpson	Received by: Elby H. Yamamoto	Date/Time: 10-1-92 11:30
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: BUBBLES WERE FOUND ON 3 VIALS OF B079Y0

054

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

9213507.1942 3c

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

ector K. Lee, L. Walker, G. Hamilton, C. Celiberti Date Sampled 9/29/92 Time 1143 hours

ipany Contact P. H. Butcher Telephone (509) 376-5045

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested	
079X6	1; 1L; P;	WATER	CLP ICP/AA METALS & Hg (HNO3) UNFILTERED	S
	1; 1L; P	WATER	CLP-CYANIDE (NaOH)	S
	3; 40ml; Gs	WATER	CLP-VOA	A
	3; 2L; aG	WATER	CLP-SEMI-VOA & PCB/PEST	A
	1; 1L; P	WATER	ANIONS (IC) (SO4,F,PO4,Cl); CONDUCTIVITY; pH	A
	2; 4L; P	WATER	GROSS ALPHA/BETA, GAMMA SPEC, ALPHA SPEC	
			(U-235/238, Pu-239/240, Am-241), Sr-90; (HNO3)	
	2 250mL ~~1; 500mL; Gs~~ A J Simpson 9/2/92	WATER	TRITIUM, C-14	
	1; 500mL; P	WATER	ANIONS (NO2/NO3) (H2SO4)	S
	1; 1L; G	WATER	ALKALINITY, TOTAL DISSOLVED SOLIDS	A
	1; 500mL; G	WATER	SULFIDE (ZINC ACETATE PLUS NaOH pH>9)	A
	1; 500mL; G	WATER	AMMONIA, CHEMICAL OXYGEN DEMAND (H2SO4	A
	1; 1L; P	WATER	Tc-99 (HNO3)	
079X9	1; 1L; P	WATER	CLP-ICP/AA METAL & MERCURY (HNO3) FILTERED	S
079Y0	3; 40mL; Gs	WATER	CLP-VOA All duplicate	A

eld Information** OPC: W92-0-0643-19

BOL: 2521567873

TASK: 92-266

pecial Handling and/or Storage

ossible Sample Hazards

PART II: LABORATORY SECTION

eceived by Elky H. Yamanoto Title Sample Control Technician Date 10-1-92

nalysis Required

055

ndicate whether sample is soil, sludge, water, etc.

Use back of page for additional information relative to sample location.

A-6000-406(05/90)

9213507.1943

N2-10-012

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 9-30-92

Ice Chest No. SML-157

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2521567950

Offsite Property No. ~~W92~~ W93-0-0001-2 KT 10/1/92

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks N/A

Sample Identification

BO 79X1

1, 1L, P, WATER, CLP-ICP/AA METALS & Hg (HNO3) UNFILTERED
1, 1L, P, WATER, CLP-CYANIDE (NaOH)
3, 40ml, Gs, WATER, CLP-VOA
3, 2L, aG, WATER, CLP-SEMI-VOA & PCB/PEST
1, 1L, P, WATER, ANIONS(IC) (SO4,F,PO4,Cl), COND., pH
2, 4L, P, WATER, GROSS ALPHA/BETA, GAMMA SPEC, ALPHA SPEC (U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3)
50ml ~~1, 500ml~~, Gs, WATER, TRITIUM, C-14
1, 500ml, P, WATER, ANIONS(NO2,NO3) (H2SO4)
1, 1L, G, WATER, ALKALINITY, TOTAL DISSOLVED SOLIDS
0-92 1, 500ml, G, WATER, SULFIDE (ZINC ACETATE+NaOH pH>9)
1, 500ml, G, WATER, AMMONIA, CHEMICAL OXYGEN DEMAND (H2SO4 pH<2)
1, 1L, P, WATER, Tc-99 (HNO3)

BO 79X4

1, 1L, P, WATER, CLP-ICP/AA METALS & Hg (HNO3) FILTERED

BO 79X5

3, 40ml, Gs, WATER, CLP-VOA

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: L.D. Walker LD Walker	Received by: K. Trapp / K. Trapp	Date/Time: 10/1/92 1000
Relinquished by: K. Trapp / K. Trapp	Received by: Elby H. Yamamoto	Date/Time: 10-2-92 11:30
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: Bubbles were found on 1 vial of BO79X5

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

056

9213507.1544

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

ector K. Lee, L. Walker, G. Hamilton, C. Celiberti Date Sampled 9/30/92 Time 1051 hours

pany Contact P. H. Butcher Telephone (509) 376-5045

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested	
79X1	1; 1L; P;	WATER	CLP ICP/AA METALS & Hg (HNO3) UNFILTERED	S
	1; 1L; P	WATER	CLP-CYANIDE (NaOH)	S
	3; 40ml; Gs	WATER	CLP-VOA	A
	3; 2L; aG	WATER	CLP-SEMI-VOA & PCB/PEST	A
	1; 1L; P	WATER	ANIONS (IC) (SO4,F,PO4,Cl); CONDUCTIVITY; pH	A
	2; 4L; P	WATER	GROSS ALPHA/BETA, GAMMA SPEC, ALPHA SPEC	
			(U-235/238, Pu-239/240, Am-241), Sr-90; (HNO3)	
	2 ~~1~~; 500mL; Gs	WATER	TRITIUM, C-14	
	1; 500mL; P	WATER	ANIONS (NO2/NO3) (H2SO4)	S
	1; 1L; G	WATER	ALKALINITY, TOTAL DISSOLVED SOLIDS	A
	1; 500mL; G	WATER	SULFIDE (ZINC ACETATE PLUS NaOH pH>9)	A
	1; 500mL; G	WATER	AMMONIA, CHEMICAL OXYGEN DEMAND (H2SO4	A
	1; 1L; P	WATER	Tc-99 (HNO3)	
79X4	1; 1L; P	WATER	CLP-ICP/AA METAL & MERCURY (HNO3) FILTERED	S
79X5	3; 40mL; Gs	WATER	CLP-VOA	A

eld Information** OPC: W92-0-0001-2

BOL: 2521567990

TASK: 92-266

pecial Handling and/or Storage

ossible Sample Hazards

PART II: LABORATORY SECTION

eceived by Elby J. Yamamoto Title Sample Control Tech. Date 10-2-92

nalysis Required

057

ndicate whether sample is soil, sludge, water, etc.

Use back of page for additional information relative to sample location.

A-6000-406(05/90)

9213507.1945

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 9-29-92

Ice Chest No. EF5G-007

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. NA

Offsite Property No. W92-

Method of Shipment EMERY

Offsite RSR # 18078

Shipped to TMA

Possible Sample Hazards/Remarks N/A

Sample Identification

B079V1

1, 1L, P, WATER, CLP-ICP/AA METALS & Hg (HNO3) UNFILTERED
1, 1L, P, WATER, CLP-CYANIDE (NaOH)
3, 40ml, Gs, WATER, CLP-VOA
3, 2L, aG, WATER, CLP-SEMI-VOA & PCB/PEST
1, 1L, P, WATER, ANIONS(IC) (SO4,F,PO4,Cl), COND., pH
2, 4L, P, WATER, GROSS ALPHA/BETA, GAMMA SPEC, ALPHA SPEC (U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3)
1, 500ml, Gs, WATER, TRITIUM, C-14
1, 500ml, P, WATER, ANIONS(NO2,NO3) (H2SO4)
1, 1L, G, WATER, ALKALINITY, TOTAL DISSOLVED SOLIDS
1, 500ml, G, WATER, SULFIDE (ZINC ACETATE+NaOH pH>9)
1, 500ml, G, WATER, AMMONIA, CHEMICAL OXYGEN DEMAND (H2SO4 pH<2)
1, 1L, P, WATER, Tc-99 (HNO3)

B079V4

1, 1L, P, WATER, CLP-ICP/AA METALS & Hg (HNO3) FILTERED

B079V5

3, 40ml, Gs, WATER, CLP-VOA – All 3 vials received @ TMA/NORCAL w/ bubbles. KB

B07B49 3, 40ml, Gs, Water, CLP-VOA

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

Relinquished by:	Received by:	Date/Time:
LD Walker LD Walker	PH Butcher PH Butcher	1 Oct 92 0930
Relinquished by:	Received by:	Date/Time:
PH Butcher PH Butcher	Abby K. Yamamoto	10-5-92 11:00
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

Note: this was sent out Friday for "Next weekday" delivery. Received @ TMA/NORCAL on Monday, these samples were ~~not refrigerated for 3 days. KB~~ received @ 11° C. KB

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

058

9215507.1946

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

lector K. Lee, L. Walker, G. Hamilton, C. Celiberti Date Sampled 9/29/92 Time 1036 hours

npany Contact P. H. Butcher Telephone (509) 376-5045

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
3079V1	1; 1L; P;	WATER	CLP-ICP/AA METALS & Hg (HNO3) UNFILTERED
	1; 1L; P	WATER	CLP-CYANIDE (NaOH)
	3; 40ml; Gs	WATER	CLP-VOA
	3; 2L; aG	WATER	CLP-SEMI-VOA & PCB/PEST
	1; ~~500mL~~ 1L; P PHG 1 Oct 92	WATER	ANIONS (IC) (SO4,F,PO4,Cl); CONDUCTIVITY; pH
	2; 4L; P	WATER	GROSS ALPHA/BETA, GAMMA SPEC, ALPHA SPEC
			(U-235/238, Pu-239/240, Am-241), Sr-90; (HNO3)
	~~1; 500mL~~ 2, 250ml; Gs	WATER	TRITIUM, C-14
	1; 250mL; P	WATER	ANIONS (NO2/NO3) (H2SO4)
	1; 500mL; P	WATER	ALKALINITY, TOTAL DISSOLVED SOLIDS
	1; 1L; P	WATER	SULFIDE (ZINC ACETATE PLUS NaOH pH>9)
	1; 500mL; G	WATER	AMMONIA, CHEMICAL OXYGEN DEMAND (H2SO4
	1; 1L; P	WATER	Tc-99 (HNO3)
	~~1; 125mL; aGs~~	~~WATER~~	~~TOC (H2SO4)~~ PHG 1 Oct 92
	~~1; 250mL; aGs~~	~~WATER~~	~~TOX (H2SO4)~~ PHG 1 Oct 92
3079V5	3; 40mL; Gs	WATER	CLP-VOA (3 bubbles
3079V4	1; 1L; P	WATER	CLP-ICP/AA METALS, Hg (HNO3) FILTERED
3078V9	3, 40ml, Gs	Water	CLP-VOA

Field Information** ~~OPG: W92~~

BOL: N/A

TASK:

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Ebby J. Yamanoto Title Sample Control Tech Date 10-5-92

Analysis Required

059

Indicate whether sample is soil, sludge, water, etc.

*Use back of page for additional information relative to sample location.

A-6000-406(05/90)

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 10-017

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : October 2, 1992

1.0 DESCRIPTION OF CASE :

Two water 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
B079X1	A2-10-017-01A	V	WATER	7
B079X1 MS	A2-10-017-01B	V	WATER	7
B079X1 MSD	A2-10-017-01C	V	WATER	7
B079X1	A2-10-017-01D	SV & P	WATER	
B079X1 MS	A2-10-017-01E	SV & P	WATER	
B079X1 MSD	A2-10-017-01F	SV & P	WATER	
B079X5	A2-10-017-02A	V	WATER	7

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

The samples were received unbroken and properly documented. 1 of the 3 VOA vials for sample B079X5 was received at TMA/NORCAL with air bubbles.

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.

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 B079Y1MS had a spike recovery for 4-Chloro-3-Methylphenol slightly above the QC limit. Both MS and MSD samples had spike recoveries for 4-Nitrophenol above the QC limits with 0% RPD. 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.

PESTICIDE/PCB ANALYSIS :

SEQUENCE NOTES :

The sequence was started on 10/14/92 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. Samples B079X1MS and B079X1MSD had spike recoveries for Dieldrin above the QC limit on the DB-1701 column. The high recovery was due to an interference peak that co-eluted with Dieldrin.

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
Nicole Roth
CLP Program Manager

Widayati
Wida Ang
Organics Supervisor

9213507.1950

000005
EPA SAMPLE NO.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

B079X1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B04

Level: (low/med) LOW Date Received: 10/02/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	4	J
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	1	J
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	18	
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

9213507.1551

000006

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B079X1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B04

Level: (low/med) LOW Date Received: 10/02/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (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

9213507.1952

000007

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079X5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B07

Level: (low/med) LOW Date Received: 10/02/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	7	J
67-64-1	Acetone	9	J
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

9213507.1953

000008
EPA SAMPLE NO.

B079X5

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B07

Level: (low/med) LOW Date Received: 10/02/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (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.

B079X1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S14

Level: (low/med) LOW Date Received: 10/02/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/07/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

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.

B079X1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S14

Level: (low/med) LOW Date Received: 10/02/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/07/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

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	10	U
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

9213507.1956

000011

EPA SAMPLE NO.

B079X1

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S14

Level: (low/med) LOW Date Received: 10/02/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/07/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN COMPOUND	21.13	16	J

9213507.1557

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000012
EPA SAMPLE NO.

B079X1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-01D

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/02/92

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 10/07/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/16/92

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

GENERAL CHEMISTRY RESULTS

CASE NO. 10-017

Water Sample #:

B079X1

CASE NARRATIVE

Sample B079X1 (A2-10-017-01) yielded a 46.5% recovery for the Phosphate analysis. The Phosphate recovery compared to our laboratory control sample indicated the presence of a matrix interference.

The % RPD for the Ammonia Nitrogen analysis reported for the Water sample B079X1 (A2-10-017-01) was 28.6%. The results for the sample and duplicate were near the instrument detection limit. These results are acceptable based on the level of Ammonia Nitrogen concentration.

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

Ernesto Vazquez

Ernesto Vazquez

9213507.1959

000008

TMA Inc. REPORT Work Order # A2-10-017

Received: 10/02/92 12/01/92 07:11:56

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
CONTACT EVV CIH

CLIENT WHC SAMPLES 3
COMPANY Westinghouse Hanford Company
FACILITY

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

WORK ID 100-KR-4
TAKEN By Westinghouse Staff
TRANS By Federal Express
TYPE Liquid
P.O. # N2-10-011-SU-AR
INVOICE under separate cover

SAMPLE IDENTIFICATION

01	B079X1
01	B079X1 MS
01	B079X1 MSD
01	B079X1
01	B079X1 MS
01	B079X1 MSD
01	B079X1
01	B079X1 MS
01	B079X1 Duplicate
01	B079X1
01	B079X1 Duplicate
01	B079X1
01	B079X1 MS
01	B079X1 Duplicate
01	B079X1
01	B079X1 MS
01	B079X1 Duplicate
02	B079X5
03	Wet Chemistry Blank

TEST CODES and NAMES used on this workorder

BNCLPW	CLP Semivol. Water - WH020
PECLPL	CLP Pesticides Liq.-WH019
SULFID	Sulfide-Dissolved (water)
VOCLPL	CLP Volatile Org.Liq.
WCCLPL	Anions & Wet Chem. - WH043
WCL L	Chloride - WH120
WCQCD	Quality Control Summary
WCQCS	Quality Control Summary
WF L	Fluoride in Water
WNH3 L	Ammonia in Water - WH140
WPH L	pH of Liquid - WH121
WPO4 L	Phosphate in Liquids
WSO4 L	Sulfate (in Waters)
W ALK	Alkalinity - WH131
W COD	COD Water - WH132
W COND	Conductivity-Water WH135
W TDS	Dissolved Solids WH128

TMA Inc. REPORT Work Order # A2-10-017

Received: 10/02/92

Results by Sample

SAMPLE ID B079X1 FRACTION 01G TEST CODE VCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/30/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	11.9	mg/L	0.2
Fluoride	300.0	<0.1	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	150.1	7.9	pH	0.1
Sulfate	300.0	72	mg/L	1
Elect. Conductivity	120.1	376	umho/cm	6

FORM I

TMA Inc. REPORT Work Order # A2-10-017

Received: 10/02/92

Results by Sample

SAMPLE ID B079X1 FRACTION 01J TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/30/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	121	mg/L	2
Tot. Dissolved Solids	160.1	321	mg/L	5

FORM I

TMA Inc. REPORT Work Order # AZ-10-017

Received: 10/02/92 Results by Sample

SAMPLE ID B079X1 FRACTION 01L TEST CODE VCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/30/92 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 # A2-10-017

Received: 10/02/92

Results by Sample

SAMPLE ID B079X1 FRACTION 010 TEST CODE VCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/30/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	0.30	mg/L	0.05
COD	410.0	<30	mg/L	30

FORM I

PAGE 1 [illegible] CHAIN OF CUSTODY ORD # N2-10-011
ROW [illegible] 10 05 92 14 06 22 KEEP: 01/30/93 DISP: S

DASH	SAMPLE IDENTIFICATION			STORE	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY						
01A-W	B07915		UNFILTERED	ARLI (10	WH018	WH019	WH020	WH043	WH114	WH121	WH122
					WH128	WH131	WH132	WH140			
01C-W	B07915	MS	UNFILTERED	ARLI	WH018	WH019	WH020	WH043	WH114	WH140	
01D-W	B07915	MSD	UNFILTERED	ARLI	WH018	WH019	WH020				
01E-W	B07915	DUP	UNFILTERED	ARLI (10	WH043	WH114	WH121	WH122	WH128	WH131	WH132
					WH140						
03A-W	B07915			ARLI (1)	WH018						

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	10-5-92	ARLI	10-5-92	Sandy [illegible]	10/6/92

3 VOA vials received not 1

SAMPLE LOG-IN SHEET

000003

LAB NAME : TMA/ARLI 9213507.1965 PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): Trudy Golub LOG-IN-DATE : 10/6/92

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.: 5188039544
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* *3 VOA vials received not, One as on chain
11. Date Recieved at Lab: 10/6/92
12. Temp of ice chest 4.0 °C
13. Time Recieved: 1015

SAMPLE TRANSFER

Fraction:
Area #:
By:
On:

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B079X1	A2-10-017-01	
	B079X5	A2-10-017-02	3 VOAS received

* Contact SMO and attach record of resolution

Reviewed By: Logbook No.:

Date: Logbook Page No.:

FORM DC-1

DOC3/LOGIN.TBL

000004

AIRBILL
PACKAGE TRACKING NUMBER 5188039544

2237M 5188039544

1 0941-5760-9 10-5-92

SAMPLE CONTROL 510-235-2633

T M A /NORCAL

2030 WRIGHT AVE

RICHMOND CA 94804

2320

2 SAMPLE CONTROL

Company TMA/ARL

Exact Street Address (No Boxes, Please) Suite or P.O. Box

160 TAYLOR STREET

MONROVIA CA 91016

H IF HOLD FOR PICK-UP Print FEDEX Address Here

Street Address

City

3

4

5 ANY SPECIAL HANDLING

6

DELIVERY WEEKEND

DIRECT SHIPMENT

Emp. No.

Street Address

City State

Received By

X

Date/Time Received

7 Release Signature

REVISION DATE 3/92

126

DESTINATION COPY

5188039544

5188039544

97 1590 1176

TMA/ARLI
Thermo Analytical Inc.

9713507.1567

000005

RADIATION DOSE RATE SURVEY FORM

Date 10/06/92 COMPANY NORCAL (WHC) OTHER ORD # 5188039544

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, dCi/mL or dCi/g
Background		35.0			0				
Consistency		7,340	0.2833		5,018	0.1844			
Smears: HOWARD		36.0			10				
18 RHV		32.0			0				
WHC #8		34.0			3.0				
Reported (WHC)	77 samples each < 50 pCi/gram							—	—
	+ N2-10-027 TOTAL ACTIVITY				5.74 E+2 pCi/gram				
	(B079V1)								
	(B079V5)								
	(B07B49)								

Comments:

All OK ✓ Approved [signature]

Not OK Date 10/06/92

Form: ARLI RA-01
Rev: 06

01/15/92

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 10-010

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : October 1, 1992

1.0 DESCRIPTION OF CASE :

Five water 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
B07B16	A2-10-010-01A	V	WATER	7
B07B16 MS	A2-10-010-01B	V	WATER	7
B07B16 MSD	A2-10-010-01C	V	WATER	7
B07B16	A2-10-010-01D	SV & P	WATER	
B07B16 RE	A2-10-010-01D	SV	WATER	
B07B16 MS	A2-10-010-01E	SV	WATER	
B07B16 MSD	A2-10-010-01F	SV	WATER	
B07B20	A2-10-010-02A	V	WATER	7
B07B50	A2-10-010-03A	V	WATER	7
B079X6	A2-10-010-04B	SV & P	WATER	
B079X6 RE	A2-10-010-04B	SV	WATER	
B079X6 MS	A2-10-010-04C	P	WATER	
B079X6 MSD	A2-10-010-04D	P	WATER	
B079Y0	A2-10-010-05A	V	WATER	7

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

The samples were received and properly documented. The following were problems encountered upon receipt of samples at TMA/ARLI:

3 of the 3 VOA vials were received broken for sample B079X6.
1 of the 3 VOA vials were received broken for sample B07B20.
1 of the 3 VOA vials were received broken for sample B07B50.
1 of the 3 VOA vials were received broken for sample B079Y0.

2 of the 2 remaining VOA vials were received with air bubbles for sample B079Y0.

The VOA analysis for sample B079X6 was cancelled per Westinghouse Hanford Company ROD-92-0173.

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.

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. The Method Blank SBLK1005C1 contained a concentration of Bis(2-ethylhexyl)phthalate that was greater than 5 times the CRQL. Sample B079X6 also contained 570ug/L of Bis(2-ethylhexyl)phthalate. With the exception of the MS and MSD, the samples were re-extracted out of holding times and analyzed. The re-extracted samples have been included in this package and are reported with the suffix "RE". The re-extracted samples detected Bis(2-ethylhexyl)phthalate below the CRQL.

Both the MS and MSD samples has 4-Nitrophenol spike recoveries that were slightly above the QC limits. The 4-Nitrophenol had a 2% RPD between the recoveries of the MS and MSD.

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

PESTICIDE/PCB ANALYSIS :

SEQUENCE NOTES :

The sequence was started on 10/14/92 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. The Dieldrin spike recoveries were above the advisory QC limit for both the MS and MSD samples on the DB-1701 column. It appears that an interference peak co-eluted with Dieldrin on the DB-1701 column. As a result the percent difference (%D) between the two GC columns exceeded the 25% limit. Therefore, Dieldrin has been "P" qualified.

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
Nicole Roth
CLP Program Manager

Widayat
Wida Ang
Organics Supervisor

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079Y0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B12

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (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	7	J
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

9213507.1972

000006

EPA SAMPLE NO.

B079Y0

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B12

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (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

9213507.1973

000007

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07B16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B07

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (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	4	J
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	2	J
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.

B07B16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B07

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (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.

B07B20

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B10

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	8	J
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.

B07B20

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B10

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (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.

B07B50

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B11

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	3	J
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

9213507.1978

000012

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07B50

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B11

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (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

9213507.1979

000013
EPA SAMPLE NO.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B079X6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S12

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/05/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

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

9213507.1980

000014

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079X6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S12

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/05/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

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	570	BE
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

9213507.1981

000015

EPA SAMPLE NO.

B079X6

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S12

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/05/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN COMPOUND	21.12	9	J
2.	UNKNOWN CARBOXYLIC ACID ESTE	25.40	2	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079X6RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21026S09

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/15/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/92

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.

B079X6RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21026S09

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/15/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/92

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	10	U
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

1F

EPA SAMPLE NO.

B079X6RE

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21026S09

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/15/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALCOHOL	6.07	180	J
2.	UNKNOWN COMPOUND	21.05	8	J

9213507.1985

000019

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07B16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S09

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/05/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

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

9213507.1986

000020

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07B16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S09

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/05/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

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	6	BJ
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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07B16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S09

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/05/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.52	3	J
2.	UNKNOWN COMPOUND	8.78	5	J
3.	UNKNOWN COMPOUND	21.07	3	J

9213507.1988

000022

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07B16RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21026S08

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/15/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/92

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.

B07B16RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21026S08

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/15/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/92

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	7	BJ
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

1F

EPA SAMPLE NO.

B07B16RE

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21026S08

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/15/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN KETONE	8.72	4	J
2.	UNKNOWN COMPOUND	20.98	3	J

9213507.1991

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000025

EPA SAMPLE NO.

B079X6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-04B

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/01/92

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 10/05/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/15/92

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

9213507.1992

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000026

EPA SAMPLE NO.

B07B16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01D

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/01/92

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 10/05/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/16/92

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

GENERAL CHEMISTRY RESULTS

CASE NO. 10-010

Water Sample #:

B07B16 B07BX6

CASE NARRATIVE

Sample B07B16 (A2-10-010-01) yielded a 46% recovery for the Phosphate analysis. The low Phosphate recovery compared to our laboratory control sample indicated the presence of a matrix interference.

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

Ernesto Vázquez

Ernesto Vazquez

9213507.1594

TNA Inc. REPORT Work Order # A2-10-010 000008

Received: 10/01/92 11/30/92 15:21:30

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: 6
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-4
TAKEN: By Westinghouse Staff
TRANS: By Federal Express
TYPE: Liquid
P.O. #: N2-10-003-SU-AR
INVOICE: under separate cover

SAMPLE IDENTIFICATION

01	B07B16
01	B07B16 MS
01	B07B16 MSD
01	B07B16
01	B07B16 MS
01	B07B16 MSD
01	B07B16
01	B07B16 MS
01	B07B16
01	B07B16 Duplicate
01	B07B16
01	B07B16 MS
01	B07B16
01	B07B16 MS
02	B07B20
03	B07B50
04	B079X6
04	B079X6 MS
04	B079X6 MSD
04	B079X6
04	B079X6 Duplicate
04	B079X6
04	B079X6 Duplicate
04	B079X6
04	B079X6 Duplicate
05	B079Y0

TEST CODES and NAMES used on this workorder

BNCLPW	CLP Semivol. Water - WH020
BROKEN	Samples Broken on Arrival
PECLPL	CLP Pesticides Liq.-WH019
SULFID	Sulfide-Dissolved (water)
VOCLPL	CLP Volatile Org.Liq.
WCCLPL	Anions & Wet Chem. - WH043
WCL L	Chloride - WH120
WCQCD	Quality Control Summary
WCQCS	Quality Control Summary
WF L	Fluoride in Water
WNH3 L	Ammonia in Water - WH140
WPH L	pH of Liquid - WH121
WPO4 L	Phosphate in Liquids
WSO4 L	Sulfate (in Waters)
W ALK	Alkalinity - WH131
W COD	COD Water - WH132
W COND	Conductivity-Water WH135
W TDS	Dissolved Solids WH128

9713507.1995

TMA Inc. REPORT Work Order # A2-10-010

Received: 10/01/92

Results by Sample

SAMPLE ID B07B16 FRACTION 01G TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/29/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	5.6	mg/L	0.2
Fluoride	300.0	0.4	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	150.1	7.9	pH	0.1
Sulfate	300.0	46	mg/L	1
Elect. Conductivity	120.1	371	umho/cm	6

FORM I

TMA Inc. REPORT Work Order # A2-10-010

Received: 10/01/92

Results by Sample

SAMPLE ID B07B16 FRACTION 01I TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/29/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	150	mg/L	2
Tot. Dissolved Solids	160.1	311	mg/L	5

FORM I

TMA Inc. REPORT Work Order # A2-10-010

Received: 10/01/92

Results by Sample

SAMPLE ID B07B16 FRACTION 01K TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/29/92 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 # A2-10-010

Received: 10/01/92 Results by Sample

SAMPLE ID B07B16 FRACTION 01M TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/29/92 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 # A2-10-010

Received: 10/01/92 Results by Sample

SAMPLE ID B079X6 FRACTION 04E TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/29/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	11.7	mg/L	0.2
Fluoride	300.0	0.3	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	150.1	7.8	pH	0.1
Sulfate	300.0	33	mg/L	1
Elect. Conductivity	120.1	355	umho/cm	6

FORM I

TMA Inc. REPORT Work Order # A2-10-010

Received: 10/01/92

Results by Sample

SAMPLE ID B079X6 FRACTION 04G TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/29/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	160	mg/L	2
Tot. Dissolved Solids	160.1	261	mg/L	5

FORM I

9713507.2001

000016

TMA Inc. REPORT Work Order # A2-10-010

Received: 10/01/92

Results by Sample

SAMPLE ID B079X6 FRACTION 04M TEST CODE WCCLPL NAME Anions & Wet Chem. - WM043

Date & Time Collected 09/29/92 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 # A2-10-010

Received: 10/01/92

Results by Sample

SAMPLE ID B079X6 FRACTION 04J TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/29/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	0.07	mg/L	0.05
COD	410.0	<30	mg/L	30

FORM I

PAGE [illegible] CHAIN OF CUSTODY ORD # N2-10-003
RCVD [illegible] KEEP: 01/29/93 DISP: S

CASE	SAMPLE DESCRIPTION			DATE	TESTS FOR FRACTIONS with work in DEPT: SU and CATEGORY						
01A-W	B07[illegible]		UNFILTERED	ARLI [illegible]	WH016	WH019	WH020	WH043	WH114	WH121	WH122
					WH128	WH131	WH132	WH140			
02A-W	B07[illegible] *		UNFILTERED	ARLI [illegible]	WH016	WH019	WH020	WH043	WH114	WH121	WH122
					WH128	WH131	WH132	WH140			
02C-W	B07[illegible]	MS	UNFILTERED	ARLI	WH016	WH019	WH020	WH043	WH114	WH140	
02D-W	B07[illegible]	MSD	UNFILTERED	ARLI	WH016	WH019	WH020				
02E-W	B07[illegible]	DUP	UNFILTERED	ARLI	WH043	WH114	WH121	WH122	WH128	WH131	WH132
					WH140						
05A-W	B07[illegible] *			ARLI [illegible]	WH016						
06A-W	B07[illegible] *			ARLI [illegible]	WH019						
07A-W	B07[illegible] *			ARLI [illegible]	WH019						

RELINQUISHED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Tyamamoto	10-1-92	ARLI	10-[illegible]-92	[illegible]	10/2/92

*Some aliquots of samples arrived broken
B079X6 - 3 VOA VIALS
B07B20 - 1 VOA VIAL
B07940 - 1 VOA VIAL
B07B50 - 1 VOA VIAL

9713507.2004

00000
N2-10-003

OFFICE OF SAMPLE MANAGEMENT
RECORD OF DISPOSITION

ROD-92-00173
Record of Disposition No.

DATE: October 20, 1992	LABORATORY: TMA
PROJECT TITLE/NO.: 100-KR-4/92-266	NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS:

- B079X6

DESCRIPTION OF EVENT:

- Sample Bottle B079X6 was broken in transit to the TMA Laboratory. There was insufficient sample remaining to perform VOA analysis.

DISPOSITION OF SAMPLES:

- With concurrence from Jim Roberts, the VOA analysis will be canceled.

APPROVAL SIGNATURES:

K. N. Pool — 10/21/92
OSM Project Coordinator (Print/Sign Name) — Date

J. Roberts — 10/22/92
Technical Representative (Print/Sign Name) — Date

N/A
Quality Assurance (Print/Sign Name) — Date

9713507.2005 **SAMPLE LOG-IN SHEET** 000003

LAB NAME : TMA/ARLI PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): Trudy Golub LOG-IN-DATE : 10/2/92

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.: 5188039430
7. Sample Tags Present/Absent*
8. Sample Tags Numbers Listed/Not Listed on Chain of Custody
9. Sample Condition: Intact/Broken*/Leaking
B07B20-1 of 3 B07B50-1 of 3 Frozen
B079Y0-1 of 3 B079X6-3 of 3
10. Does information on custody records, traffic reports, and sample tags agree Yes/No*
11. Date Recieved at Lab: 10/2/92
12. Temp of ice chest 5 °C
13. Time Recieved: 0900

SAMPLE TRANSFER

Fraction: _____
Area #: _____
By: _____
On: _____

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B07B16	A2-10-010-01	
	B07B20	A2-10-010-02	one voa vial broken/ frozen see #9
	B07B50	A2-10-010-03	1 voa vial frozen broken see #9
	B079X6	A2-10-010-04	3 voa vials broken Frozen see #9
	B079Y0	A2-10-010-05	1 vial frozen/ broken see #9

* Contact SMO and attach record of resolution

Reviewed By: _____ Logbook No.: _____

Date: _____ Logbook Page No.: _____

FORM DC-1

DOC2/LOGIN.TBL

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 10/02/92 COMPANY NORCAL (WHC) OTHER ORD # 5188039430

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, nCi/mL or nCi/g
Background		38.0			0				
Consistency		7,280	0.2810		5,011	0.1842			
Smears: SML-23		44.0			2.0				
Reported (WHC)	11 samples			each	<50 pCi/gm			—	—

Comments:

All OK ✓ Approved [signature]

Not OK Date 10/02/92

Form: ARLI RA-01
Rev: 06

01/15/92

9713507.2007

000005

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 5188039430

5188039430

RECIPIENT'S COPY

1 Date

From (Your Name) Please Print: Sample Contact

Your Phone Number (Very Important): (510) 33-2033

Company: T M A / MERCAL

Department/Floor No

Street Address: 2033 BRIGHT AVE

City: RICHMOND State: CA ZIP Required: 94804

2 To (Recipient's Name) Please Print: Sample Contact

Recipient's Phone Number (Very

Company: TMA/ARC

Department/F

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

City: MONTEREY State: CA ZIP Required: 93940

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2370 .6406

H IF HOLD FOR PICK-UP, Print FEDEX Address Here

Street Address

City State ZIP Required

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

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)

11 [X] YOUR PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon; No Saturday delivery†)

51 [ ] YOUR PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)

30 [ ] ECONOMY

Government Overnight (Restricted to authorized users only)

46 [ ] GOV'T LETTER
41 [ ] GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)

70 [ ] OVERNIGHT FREIGHT** (Continental 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 [X] DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [ ]
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE Lbs
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
10 [ ]
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES | WEIGHT in Pounds Only | YOUR DECLARED VALUE

Total 1 | Total 93 | 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

Fedex Expre

Base Charges

Declared Value (

Other 1

Other 2

Total Charges

REVISION DATE 2.92
PART #137204 FX
FORMAT #126

126

© 1991-92 FEDEX
PRINTED IN U.S.A.

CLAAN29430

9713507.2008

000001

Page 1 Skinner&Sherman REPORT Work Order # S2-10-079

Received: 10/02/92 12/11/92 13:36:40

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 N2-10-003.011
TAKEN By Client
TRANS Fedex #5188039566.22
TYPE Water (NO3NO2)
P.O. # N2-10-003.011
INVOICE under separate cover

SAMPLE IDENTIFICATION	TEST CODES and NAMES used on this workorder
01 B07B16	NO3NO2 Nitrate Plus Nitrite
02 B079X6	
02 B079X6D	
02 B079X6S	
03 B079X1	
04 LCSW	

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

9713507.2009

000002

 Skinner&Sherman REPORT Work Order # S2-10-079

Received: 10/02/92 Results by Sample

SAMPLE ID B07B16 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 09/29/92 Category WATER

NO3NO2 10.7
mg N/L

SAMPLE ID B079X6 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 09/29/92 Category WATER

NO3NO2 3.38
mg N/L

SAMPLE ID B079X6D SAMPLE # 02 FRACTIONS: B
Date & Time Collected 09/29/92 Category WATER

NO3NO2 3.36
mg N/L

SAMPLE ID B079X6S SAMPLE # 02 FRACTIONS: C
Date & Time Collected 09/29/92 Category WATER

NO3NO2 5.06
mg N/L

SAMPLE ID B079X1 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 09/30/92 Category WATER

NO3NO2 12.0
mg N/L

SAMPLE ID LCSW SAMPLE # 04 FRACTIONS: A
Date & Time Collected not specified Category WATER

NO3NO2 1.98
mg N/L

TMA
Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is 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

Received: 10/02/92

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

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

9713507.2011

000024

TMA/Skinner & Sherman Labs SAMPLE LOG-IN
WORKORDER 5210079 CLIENT Hanford-NOR No. SAMPLES:
PROTCL CLP TURNARND 33 days 3
COOLER TEMP: 4 oC, or NA (Soil) (Water) (Specify Othe:
CUSTODIAN Benney A. SDG/BATCH N/A
CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N210003.01
SHIPER & # Fedex 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 10/2/92 10/3/92
LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME
1	B07B16	WATER	10/2/92	1.71	NO3NO2	DUE
2	B079X6	↓	↓	1.79		10/27/9
3	B079X1	↓	10/3/92	1.81		
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

Complete 10/5/92

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

* EPA/CLP required Rev 1.6 PAGE:

9713507.2012

000025

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-011

RCVD: 10/02/92 DUE: 11/01/92 10/02/92 14:36:24 KEEP: 01/30/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	B079X1 UNFILTERED	S&S (3)	WH007	WH008	WH010	WH011	WH137
01F-W	B079X1 MS UNFILTERED	S&S (3)	WH007	WH008	WH010	WH011	WH137
01G-W	B079X1 DUP UNFILTERED	S&S (3)	WH007	WH008	WH010	WH011	WH137
01H-W	L C S	S&S (3)	WH007	WH008	WH010	WH011	WH137
02A-W	B079X4 FILTERED	S&S (1)	WH007	WH008	WH010		
02B-W	B079X4 MS FILTERED	S&S	WH007	WH008	WH010		
02C-W	B079X4 DUP FILTERED	S&S	WH007	WH008	WH010		
02D-W	L C S	S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
cyamamoto	10-2-92	SS-1	10-2-92	[illegible]	10/3/92

9713507.2013

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-003 000026

RCVD: 10/01/92 DUE: 10/31/92 10/01/92 14:40:34 KEEP: 01/29/93 DISP: S

DASH	SAMPLE IDENTIFICATION			STORED	TESTS for FRACTIONS with work in DEPT: SV and CATEGORY				
01B-W	B07B16		UNFILTERED	S&S (3)	WH007	WH008	WH010	WH011	WH137
02B-W	B079X6		UNFILTERED	S&S (3)	WH007	WH008	WH010	WH011	WH137
02F-W	B079X6	MS	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
02G-W	B079X6	DUP	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
02H-W	L C S			S&S	WH007	WH008	WH010	WH011	WH137
03A-W	B07B19		FILTERED	S&S (1)	WH007	WH008	WH010		
04A-W	B079X9		FILTERED	S&S (1)	WH007	WH008	WH010		
04B-W	B079X9	MS	FILTERED	S&S	WH007	WH008	,WH010		
04C-W	B079X9	DUP	FILTERED	S&S	WH007	WH008	WH010		
04D-W	L C S			S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	10-1-92	Skinner	10-1-92	[illegible]	10/2/92

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

9213507.2014

DEC 1992
RECEIVED
OSM DMO

RECORD COPY

December 18, 1992

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

Quality Control Narrative

Scope
Three (3) water samples were submitted to TMA/Skinner & Sherman Laboratories, Inc. on October 2-3, 1992 from TMA/Norcal. The samples were analyzed for the USEPA CLP Target Analyte List metals. The analysis was performed under TMA/Skinner and Sherman work order S210080.

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 thallium digestion spike recovery 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

9713507.2015

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B079X4

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

Lab Code: SKINER Case No.: N2-10-003$AS No.: SDG No.: B079X9

Matrix (soil/water): WATER Lab Sample ID: 10080-03S

Level (low/med): LOW Date Received: 10/03/92

% 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	U		P
7440-38-2	Arsenic	2.9	U		F
7440-39-3	Barium	44.7	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	76400			P
7440-47-3	Chromium	4.3	B		P
7440-48-4	Cobalt	1.3	U		P
7440-50-8	Copper	1.9	U		P
7439-89-6	Iron	4.0	U		P
7439-92-1	Lead	2.5	B		F
7439-95-4	Magnesium	9670			P
7439-96-5	Manganese	33.1			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.6	U		P
7440-09-7	Potassium	4330	B		P
7782-49-2	Selenium	3.8	U		F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	13700			P
7440-28-0	Thallium	1.7	U	WN	F
7440-62-2	Vanadium	2.5	U		P
7440-66-6	Zinc	5.7	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713507.2016

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B079X9

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

Lab Code: SKINER Case No.: N2-10-003 SAS No.: SDG No.: B079X9

Matrix (soil/water): WATER Lab Sample ID: 10080-02S

Level (low/med): LOW Date Received: 10/02/92

% 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	27.6	B		P
7440-36-0	Antimony	14.8	U		P
7440-38-2	Arsenic	2.9	U		F
7440-39-3	Barium	61.1	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	56000			P
7440-47-3	Chromium	93.3			P
7440-48-4	Cobalt	1.3	U		P
7440-50-8	Copper	1.9	U		P
7439-89-6	Iron	28.3	B		P
7439-92-1	Lead	2.7	B		F
7439-95-4	Magnesium	10900			P
7439-96-5	Manganese	177			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.6	U		P
7440-09-7	Potassium	4160	B		P
7782-49-2	Selenium	3.8	U	W	F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	18800			P
7440-28-0	Thallium	1.7	U	WN	F
7440-62-2	Vanadium	2.5	U		P
7440-66-6	Zinc	10.4	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713507.2017

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07B19

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

Lab Code: SKINER Case No.: N2-10-003$AS No.: SDG No.: B079X9

Matrix (soil/water): WATER Lab Sample ID: 10080-01S

Level (low/med): LOW Date Received: 10/02/92

% 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	17.4	B		P
7440-38-2	Arsenic	2.9	U	W	F
7440-39-3	Barium	31.8	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	54500			P
7440-47-3	Chromium	144			P
7440-48-4	Cobalt	1.3	U		P
7440-50-8	Copper	1.9	U		P
7439-89-6	Iron	11.8	B		P
7439-92-1	Lead	3.6			F
7439-95-4	Magnesium	13900			P
7439-96-5	Manganese	4.2	B		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.6	U		P
7440-09-7	Potassium	8770			P
7782-49-2	Selenium	3.8	U	W	F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	20500			P
7440-28-0	Thallium	1.7	U	WN	F
7440-62-2	Vanadium	11.9	B		P
7440-66-6	Zinc	8.2	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713507.2018

A.B. 10/5/92

TMA/Skinner & Sherman Labs SAMPLE LOG-IN

WORKORDER S2810080 CLIENT HANFORD NOR No. SAMPLES:

PROTCL CLP TURNARND 33 days

COOLER TEMP: 4 oC, or NA (Soil) (Water) (Specify Other)

CUSTODIAN Antonio Bernay SDG/BATCH N/A

CUSTODY SEAL: ~~PRESENT~~/ABSENT/~~INTACT~~/NOT CLIENT CASE N20003.011

SHIPER & # Fedex PO/CONTRACT# ↓ ↓

TAGS: ~~PRESENT~~/ABSENT/NA/SEE COC CONTACT Dolores 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 10/2/92 10/3/92

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

FIELD FILTERED

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME
1	B07B19	WATER	10/2/92	1.93	TM	HG-DUE
2	B079X9	↓	↓	1.91	D.S ↓	10/27/9
3	↓ X4	↓	10/3/92	1.98		
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

complete 10/3/92 KAG

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:

1130 REVIEWED

* EPA/CLP required Rev 1.6 PAGE:

9713507.2019

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-003

RCVD: 10/01/92 DUE: 10/31/92 10/01/92 14:40:34 KEEP: 01/29/93 DISP: S

DASH	SAMPLE IDENTIFICATION			STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	B07B16		UNFILTERED	S&S (3)	WH007	WH008	WH010	WH011	WH137
02B-W	B079X6		UNFILTERED	S&S (3)	WH007	WH008	WH010	WH011	WH137
02F-W	B079X6	MS	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
02G-W	B079X6	DUP	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
02H-W	L C S			S&S	WH007	WH008	WH010	WH011	WH137
03A-W	B07B19		FILTERED	S&S (1)	WH007	WH008	WH010		
04A-W	B079X9		FILTERED	S&S (1)	WH007	WH008	WH010		
04B-W	B079X9	MS	FILTERED	S&S	WH007	WH008	WH010		
04C-W	B079X9	DUP	FILTERED	S&S	WH007	WH008	WH010		
04D-W	L C S			S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	10-1-92	Skinner	10-1-92	[illegible]	10/2/92

131

9213507.2020

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N2-10-011

RCVD: 10/02/92 DUE: 11/01/92 10/02/92 14:36:24 KEEP: 01/30/93 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	B079X1 UNFILTERED	S&S (3)	WH007	WH008	WH010	WH011	WH137
01F-W	B079X1 MS UNFILTERED	S&S (3)	WH007	WH008	WH010	WH011	WH137
01G-W	B079X1 DUP UNFILTERED	S&S (3)	WH007	WH008	WH010	WH011	WH137
01H-W	L C S	S&S (3)	WH007	WH008	WH010	WH011	WH137
02A-W	B079X4 FILTERED	S&S (1)	WH007	WH008	WH010		
02B-W	B079X4 MS FILTERED	S&S	WH007	WH008	WH010		
02C-W	B079X4 DUP FILTERED	S&S	WH007	WH008	WH010		
02D-W	L C S	S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
cyamamoto	10-2-92	SS-1	10-2-92	[illegible]	10/3/92

132

9713507.2021

PAGE 1 (Notes) CHAIN OF CUSTODY ORD # N2-10-003

RCVD: 10/01/92 DUE: 10/31/92 10/01/92 14:40:34 KEEP: 01/29/93 DISP: S

100-KR-4

DASH	SAMPLE IDENTIFICATION	FILTERED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
013-W	[illegible]	UNFILTERED	WH007	WH008	WH010	WH011	WH137
023-W	[illegible]	UNFILTERED	WH007	WH008	WH010	WH011	WH137
02F-W	[illegible]	UNFILTERED	WH007	WH008	WH010	WH011	WH137
033-W	[illegible]	UNFILTERED	WH007	WH008	WH010	WH011	WH137
03H-W	[illegible]		WH007	WH008	WH010	WH011	WH137
13H-W	[illegible]	FILTERED	WH007	WH008	WH010		
14H-W	[illegible]	FILTERED	WH007	WH008	WH010		
043-W	[illegible]	FILTERED	WH007	WH008	WH010		
040-W	[illegible]	FILTERED	WH007	WH008	WH010		
04G-W	[illegible]		WH007	WH008	WH010		

RELINQUISHED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	10-1-92	Skinner	10-1-92	[illegible]	10/2/92

9213507.2022

CHAIN OF CUSTODY ORD # N2-10-011

RCVD: 10/02/92 DUE: 10/21/92 10/02/92 14:36:24 KEEP: 01/30/93 DISP: S

100-KR-4

DASH	SAMPLE IDENTIFICATION		FILTER		TESTS TO PERFORM WITH work in DEPT: SU and CATEGORY				
01B-W	B07X1	UNFILTERED	S&S	(1)	WH007	WH008	WH010	WH011	WH137
01F-W	B07X1	MS UNFILTERED	S&S	(1)	WH007	WH008	WH010	WH011	WH137
01G-W	B07X1	DUP UNFILTERED	S&S	(1)	WH007	WH008	WH010	WH011	WH137
01H-W	L C S		S&S	(1)	WH007	WH008	WH010	WH011	WH137
02A-W	B07X4	FILTERED	S&S	(1)	WH007	WH008	WH010		
02B-W	B07X4	MS FILTERED	S&S		WH007	WH008	WH010		
02C-W	B07X4	DUP FILTERED	S&S		WH007	WH008	WH010		
02D-W	L C S		S&S		WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
kyamamoto	10-2-92	SS-1	10-2-92	[illegible]	10/3/92

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

9713507.2023

DEC 1992
RECEIVED
OSM DMO

RECORD COPY

December 18, 1992

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

Quality Control Narrative

Scope
Three (3) water samples were submitted to TMA/Skinner & Sherman Laboratories, Inc. on October 1-3, 1992 from TMA/Norcal. The samples were analyzed for the USEPA CLP metals and cyanide as indicated on the chain of custody. The analysis was performed under TMA/Skinner and Sherman work order S210078.

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 no exceptions.

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

9713507.2024

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

INORGANIC ANALYSTS DATA SHEET

B079X1

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

Lab Code: SKINER Case No.: N2-10-003SAS No.: SDG No.: B079X6

Matrix (soil/water): WATER Lab Sample ID: 10078-03S

Level (low/med): LOW Date Received: 10/03/92

% 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	136	B		P
7440-36-0	Antimony	15.2	B		P
7440-38-2	Arsenic	2.2	U		F
7440-39-3	Barium	47.0	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	77100			P
7440-47-3	Chromium	25.7			P
7440-48-4	Cobalt	1.3	U		P
7440-50-8	Copper	1.9	U		P
7439-89-6	Iron	302			P
7439-92-1	Lead	1.9	B		F
7439-95-4	Magnesium	9860			P
7439-96-5	Manganese	33.7			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	14.8	B		P
7440-09-7	Potassium	4370	B		P
7782-49-2	Selenium	3.6	U		F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	13800			P
7440-28-0	Thallium	3.8	U	W	F
7440-62-2	Vanadium	2.5	U		P
7440-66-6	Zinc	68.3			P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLOUDY Artifacts:

Comments:

002

FORM I - IN ILM02.1

9713507.2025

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B079X6

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0100

Lab Code: SKINER Case No.: N2-10-003$AS No.: SDG No.: B079X6

Matrix (soil/water): WATER Lab Sample ID: 10078-02S

Level (low/med): LOW Date Received: 10/02/92

% 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	36.4	B		P
7440-36-0	Antimony	14.8	U		P
7440-38-2	Arsenic	2.4	B		F
7440-39-3	Barium	61.8	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	55600			P
7440-47-3	Chromium	105			P
7440-48-4	Cobalt	1.3	U		P
7440-50-8	Copper	1.9	U		P
7439-89-6	Iron	120			P
7439-92-1	Lead	1.1	B		F
7439-95-4	Magnesium	10800			P
7439-96-5	Manganese	183			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	8.5	B		P
7440-09-7	Potassium	4140	B		P
7782-49-2	Selenium	3.6	U		F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	18300			P
7440-28-0	Thallium	3.8	U	W	F
7440-62-2	Vanadium	2.5	U		P
7440-66-6	Zinc	44.4			P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

003

FORM I - IN ILM02.1

9713507.2026

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B07B16

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

Lab Code: SKINER Case No.: N2-10-003SAS No.: SDG No.: B079X6

Matrix (soil/water): WATER Lab Sample ID: 10078-016

Level (low/med): LOW Date Received: 10/02/92

% 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	471			P
7440-36-0	Antimony	14.8	U		P
7440-38-2	Arsenic	7.9	B		F
7440-39-3	Barium	37.9	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	53300			P
7440-47-3	Chromium	159			P
7440-48-4	Cobalt	2.5	B		P
7440-50-8	Copper	5.1	B		P
7439-89-6	Iron	1300			P
7439-92-1	Lead	3.1			F
7439-95-4	Magnesium	13700			P
7439-96-5	Manganese	39.8			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	5.3	B		P
7440-09-7	Potassium	8510			P
7782-49-2	Selenium	3.6	U	W	F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	19800			P
7440-28-0	Thallium	3.8	U	W	F
7440-62-2	Vanadium	15.8	B		P
7440-66-6	Zinc	26.3			P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLOUDY Artifacts:

Comments:

004

FORM I - IN ILM02.1

9713507.2027

TMA/Skinner & Sherman Labs SAMPLE LOG-IN
WORKORDER S210078 CLIENT Hanford - NOI No. SAMPLES:
PROTCL CLP TURNARND 33 days 3
COOLER TEMP: 4 oC, or NA (Soil) (Water) (Specify Othe:
CUSTODIAN Benney, A. SDG/BATCH N/A
CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N210003,011
SHIPER & # Fedex PO/CONTRACT# ↓ ↓
TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT Dolores 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 10/2/92 10/3/92
LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

unfiltered

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME
1	B07B16	WATER	10/2/92	1.89/11.56	TM/CN	CN DUE 10/13
2	B079X6	↓	↓	1.66/11.42	↓	
3	↓ X1	↓	10/3/92	1.79/11.36		HG DU 10/27
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

10/5/92

Complete

KB

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

* EPA/CLP required Rev 1.6 PAGE:

9713507.2028

PAGE 1 [illegible]/Norcal CHAIN OF CUSTODY ORD # N2-10-003

RCVD: 10/01/92 DUE: 10/01/92 10/01/92 14:40:34 KEEP: 01/29/93 DISP: S

100-KR-4

DASH	SAMPLE IDENTIFICATION		STORED		TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	[illegible]	UNFILTERED	[illegible]	[illegible]	WH007	WH008	WH010	WH011	WH137
02B-W	[illegible]	UNFILTERED	[illegible]	[illegible]	WH007	WH008	WH010	WH011	WH137
03F-W	[illegible]	UNFILTERED	[illegible]		WH007	WH008	WH010	WH011	WH137
03D-W	[illegible]	UNFILTERED	[illegible]		WH007	WH008	WH010	WH011	WH137
02H-W	[illegible]		[illegible]		WH007	WH008	WH010	WH011	WH137
03A-W	[illegible]	FILTERED	[illegible]	[illegible]	WH007	WH008	WH010		
04A-W	[illegible]	FILTERED	[illegible]	[illegible]	WH007	WH008	WH010		
04B-W	[illegible]	FILTERED	[illegible]		WH007	WH008	WH010		
04D-W	[illegible]	FILTERED	[illegible]		WH007	WH008	WH010		
04D-W	[illegible]		[illegible]		WH007	WH008	WH010		

RELINQUISHED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	10-1-92	Skinner	10-1-92	[illegible]	10/2/92

9713507.2029

PAGE 1 TMA/Normal CHAIN OF CUSTODY ORD # N2-10-011

RCVD: 10/02/92 DUE: 11/01/92 10/02/92 14:36:24 KEEP: 01/30/93 DISP: S

100-KR-4

DASH	SAMPLE IDENTIFICATION	FILTERED		TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	B07941 UNFILTERED	B&B	(1)	WH007	WH008	WH010	WH011	WH137
01F-W	B07941 MS UNFILTERED	B&B	(1)	WH007	WH008	WH010	WH011	WH137
01G-W	B07941 DUP UNFILTERED	B&B	(1)	WH007	WH008	WH010	WH011	WH137
01H-W	L C S	B&B	(1)	WH007	WH008	WH010	WH011	WH137
02A-W	B07944 FILTERED	B&B	(1)	WH007	WH008	WH010		
02B-W	B07944 MB FILTERED	B&B		WH007	WH008	WH010		
02C-W	B07944 DUP FILTERED	B&B		WH007	WH008	WH010		
02D-W	L C S	B&B		WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
eyamamoto	10-2-92	SS-1	10-2-92	[illegible]	10/3/92

9713507.2030

OFFICE OF SAMPLE MANAGEMENT
RECORD OF DISPOSITION

ROD-92-00219
Record of Disposition No.

DATE: 12/16/92	LABORATORY: TMA
PROJECT TITLE/NO.: 100-KR-4/92-266	NCR NO.:

SAMPLE IDENTIFICATION NUMBERS:

B079V1, B079V4, B079V5, B07B49

DESCRIPTION OF EVENT:

THIS ROD REPLACES ROD-92-00180:

1) FOR SAMPLE BO79V5, ALL THREE VIALS WERE RECEIVED AT TMA WITH AIR BUBBLES.

2) ALL SAMPLES WERE RECEIVED AT TMA AT 11 DEGREES CELCIUS.

DISPOSITION OF SAMPLES:

PER J. M. ROBERTS, PROJECT MANAGER, PROCEED WITH ANALYSIS.

APPROVAL SIGNATURES:

KARL N. POOL/ Karl N. Pool — 12/18/92
OSM Project Coordinator (Print/Sign Name) — Date

J. M. ROBERTS/ J. W. Roberts — 1/28/93
Technical Representative (Print/Sign Name) — Date

N/A
Quality Assurance (Print/Sign Name) — Date

9713507.2031

5102350438 Oct 06,92 11:39 .02

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-KR-4

Ice Chest No. EFSG-007

Bill of Lading/Airbill No. NA

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks N/A

Telephone (509)376-5045

Collection Date 9-29-92

Field Logbook No. EFL-1048

Offsite Property No. W92-

Offsite RSR # 18078

Sample Identification

2) B079VL
- 1, 1L, P, WATER, CLP-ICP/AA METALS & Hg (HNO3) UNFILTERED
- 1, 1L, P, WATER; CLP-CYANIDE (NaOH)
- 3, 40ml, Gs, WATER, CLP-VOA
- 3, 2L, aG, WATER, CLP-SEMI-VOA & PCB/PEST
- 1, 1L, P, WATER, ANIONS(IC) (SO4,F,PO4,Cl), COND., pH
- 2, 4L, P, WATER, GROSS ALPHA/BETA, GAMMA SPEC, ALPHA SPEC (U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3)
- 1, 500ml, Gs, WATER, TRITIUM, C-14
- 1, 500ml, P, WATER, ANIONS(NO2,NO3) (H2SO4)
- 1, 1L, G, WATER, ALKALINITY, TOTAL DISSOLVED SOLIDS
- 1, 500ml, G, WATER, SULFIDE (ZINC ACETATE+NaOH pH>9)
- 1, 500ml, G, WATER, AMMONIA, CHEMICAL OXYGEN DEMAND (H2SO4 pH<2)
- 1, 1L, P, WATER, Tc-99 (HNO3)

B079V4
- 1, 1L, P, WATER, CLP-ICP/AA METALS & Hg (HNO3) FILTERED

B079V5
- 3, 40ml, Gs, WATER, CLP-VOA — All 3 vials received @ TMA/NORCAL w/ bubbles.

B07849 3, 40ml, Gs, Water, CLP-VOA

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

Relinquished by:	Received by:	Date/Time:
LD Walker LD Walker	PH Butcher PH Butcher	1 Oct 92 0930
PH Butcher PH Butcher	tdy K. Yamamoto	10-5-92 11:00

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

Note: this was sent out Friday for "Next weekday" delivery. Received @ TMA/NORCAL on Monday, these samples were ~~not refrigerated for 3 days~~ KB received @ 11°C. KB

9713507.2032

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, L. Walker, G. Hamilton, C. Celiberti Date Sampled 9/29/92 Time 1036 hours

Company Contact P. H. Butcher Telephone (509) 376-5045

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B079V4	1; 1L; P;	WATER	CLP-ICP/AA METALS & Hg (HNO3) UNFILTERED
	1; 1L; P	WATER	CLP-CYANIDE (NaOH)
	3; 40ml; Gs	WATER	CLP-VOA
	3; 2L; aG	WATER	CLP-SEMI-VOA & PCB/PEST
	1; ~~500mL~~ 1L; P PHB 1 Oct 92	WATER	ANIONS (IC) (SO4,F,PO4,Cl); CONDUCTIVITY; pH
	2; 4L; P	WATER	GROSS ALPHA/BETA, GAMMA SPEC, ALPHA SPEC
			(U-235/238, Pu-239/240, Am-241), Sr-90; (HNO3)
	2, 250ml ~~1; 500mL~~; Gs	WATER	TRITIUM, C-14
	1; 250mL; P	WATER	ANIONS (NO2/NO3) (H2SO4)
	1; 500mL; P	WATER	ALKALINITY, TOTAL DISSOLVED SOLIDS
	1; 1L; P	WATER	SULFIDE (ZINC ACETATE PLUS NaOH pH>9)
	1; 500mL; G	WATER	AMMONIA, CHEMICAL OXYGEN DEMAND (H2SO4
	1; 1L; P	WATER	Tc-99 (HNO3)
	~~1; 125mL; aGs~~	~~WATER~~	~~TOG (H2SO4)~~ PHB 1 Oct 92
	~~1; 250mL; aGs~~	~~WATER~~	~~TOX (H2SO4)~~ PHB 1 Oct 92
B079V5	3; 40mL; Gs	WATER	CLP-VOA (2 bubbles
B079V4	1; 1L; P	WATER	CLP-ICP/AA METALS, Hg (HNO3) FILTERED
B07B49	3, 40ml, Gs	Water	CLP-VOA

Field Information** ~~OPG: W92-~~

BOL: N/A

TASK:

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Ellen J. Yamanoto Title Sample Control Tech Date 10-5-92

* Analysis Required

TEL NO. 5102550438 Oct 06,92

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

PACKAGE TRACKING NUMBER 4646828406

4646828406

RECIPIENT'S COPY

Date 10-2-92

From (Your Name) Please Print: J.E. MAXWELL

Your Phone Number (Very Important): (509) 376-7093

Department/Floor No.

Company: U.S. DEPT. OF ENERGY c/o WESTINGHOUSE HANFORD OPERATION

(EMERGENCY CONTACT PHONE NUMBER 509-373-3800)

Street Address: 1100 AREA 1163 BLDG

City: RICHLAND State: WA ZIP Required: 9 9 3 5 2

To (Recipient's Name) Please Print: RECEIVING

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

Department/Floor

Company: TMA / NORCAL

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 2030 WRIGHT AVENUE

City: RICHMOND State: CA ZIP Required: 94804

YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice): 7877 81232 PC41A

RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL

NOT EMERGENCY RESPONSE GUIDE # 61 ATTACHED

IF HOLD FOR PICK-UP, Print FEDEX Address Here (Not available at all locations)

Street Address

City State ZIP Required

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

SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning) 11 [X]

Standard Overnight (Delivery by next business afternoon) 51 [ ]

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

Government Overnight (Available to authorized users only) 41 [ ]

Freight Service (for Free Large & any package over 150 lbs.)

70 [ ] OVERNIGHT FREIGHT ** (Extended recreation required) 1 Delivery commitment may be later in some areas

80 [ ] TWO-DAY FREIGHT **

*Declared Value Limit $100

**Call for delivery schedule

INSTRUCTIONS (Mark appropriate boxes)

- Dangerous Goods as per attached Shipper's Declaration [ ]
- Dangerous Goods Shipper's Declaration not required [X]
- Cargo Aircraft only [ ]

DELIVERY AND SPECIAL HANDLING (Check services required)

1 [ ] HOLD FOR PICK-UP (Fill in Box 4)

2 [X] DELIVER WEEKDAY

3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [ ]

4 [X] DANGEROUS GOODS (Extra charge)

6 [ ] DRY ICE lbs.

- Dangerous Goods Shipper's Declaration not required
- Dry Ice, 9, UN 1845 kg.

7 [ ] OTHER SPECIAL SERVICE

11 [ ]

12 [ ] HOLIDAY DELIVERY (If allowed) (Extra charge)

Packages	Weight in Pounds only
1	98
Total 1	Total 98

DIM SHIPMENT (Chargeable Weight) [ ] lbs.

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

FedEx Emp. No. Date/Time

Emp. No. Date

[ ] Cash Received

[ ] Return Shipment

[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold

Street Address

City State Zip

Received By: X

Date/Time Received FedEx Employee Number

SIGNATURE RELEASE UNAVAILABLE

Federal Express Charges

Base Charges

Declared Value Charge

Other 1

Other 2

Total Charges

REVISION DATE 2/91 PART #137211 FORMAT #069

069

© 1991-91 FEC PRINTED IN U.S.A.

9713507.2034

QUALITY ASSURANCE

NONCONFORMANCE REPORT DISTRIBUTION

1. FROM:	2. MSIN:	3. DATE:
Environmental Quality Assurance	H4-16	February 2, 1993

4. NCR No.:	5. Initiation, Disposition, or Closure (I, D, C):
051712 / EQA-93-007	I

	6. TO:	MSIN	I	D	C
Cognizant Engineer	J. W. Roberts	H6-02			
Cognizant Quality Engineer	G. S. Corrigan	H4-16			
Originator	R. C. Smith	H4-23			
Q. A. Manager	NA	NA			
Cognizant QE Manager	T. L. Bennington	H4-16			
Facility Manager	NA	NA			
Engineering Records	L. M. McDaniel	H6-08			
Safety	NA	NA			
QSDM	D. P. Trott	L4-86			
Other: JCS Package	NA	NA			
Q. C.	NA	NA			
Buyer (Procurement)	NA	NA			
P.O. File (Procurement)	NA	NA			
Vendor File (Procurement)	NA	NA		FEB 1993	
	EQA File	H4-16			
	P. H. Butcher	H6-06			
	JH Kessler	H4-23			

7. QST Codes

Subject:	Cause:	Contr. Factor:	PPG:
AD-08	PN-002		

8. Responsible Action Party:	Org Code:
J. W. Roberts	81310

A-6000-816 (09/91)

9713507.2035

Westinghouse Hanford Company

NONCONFORMANCE REPORT

1. Page 1 of 1

2. Preprinted No. 051712

QA Log No. EQA-93-007

3. P. O., W. O., or Job Control No.	4. System/End Use	5. Item/Material	6. Dwg./Spec./Other No.	7. Rev.
N/A	RI/FS	WATER SAMPLES	N/A	N/A

8. Program/Project/Other: CERCLA 2.2.93 100-KR-4 / 92-266

9. Safety Class: N/A

10. ASME Code Items: ☐ Yes ☒ No (If yes, notify authorized inspector)

11. Supplier Name/Address: ENVIRONMENTAL FIELD SERVICES

12. Notification of Potential Occurence Required: ☐ Yes ☒ No

13. Code: Lot/Heat/Serial	14. Lot Size	15. Sample	16. Qty. Acc.	17. Inspection Criteria
N/A	X 4 2.2.93	X 4 2.2.93	0	☐ Dwg. ☐ Spec. ☐ Insp. Plan ☒ Other CLP STATEMENT OF WORK

18. Item	19. Description of Nonconformance (list serial no. where applicable)	22. Disposition, Justification, and Instructions
	ALL ALIQUOTS FOR SAMPLES B079V1, B079V4, B079V5, B07B49 WERE RECEIVED AT TMA AT 11°C. CLP STATEMENT OF WORK REQUIRES SAMPLES BE MAINTAINED AT 4°C ± 2°C.	

20. Originator's Signature: R. C. SMYTH — Date: 1/29/93

23. Design Document Change Required? ☐ Yes, Doc. No. _____ ☐ No

21. Cognizant QA Manager's Signature: W.C. Rockefeller for T.L. Bennington 2.2.93 — Date

24. Corrective Action Required? ☐ Yes, No. _____ ☐ No

Disp. App.

25. Cognizant Engineer	Date	26. Technical Rep.	Date	Signature/Org.	Date
JW Roberts					
QA Engineer	Date	Signature/Org.	Date	Signature/Org.	Date
GS Corrigan					

Close

27. Accept _____ Reject _____ Follow on NCR _____ QA/C Personnel _____ Date

A-7310-104 (10/91)

9713507.2036

Westinghouse Hanford Company

NONCONFORMANCE REPORT

1. Page 1 of 1

2. Preprinted No. 051711

QA Log No. EQA-93-012

3. P. O., W. O., or Job Control No.	4. System/End Use	5. Item/Material	6. Dwg./Spec./Other No.	7. Rev.
N/A	RI/FS	WATER SAMPLES	N/A	N/A

8. Program/Project/Other	9. Safety Class	10. ASME Code Items
100-KR-4/92-266	N/A	☐ Yes ☒ No (If yes, notify authorized inspector)

11. Supplier Name/Address: ENVIRONMENTAL FIELD SERVICES

12. Notification of Potential Occurence Required: ☐ Yes ☒ No

13. Code: Lot/Heat/Serial	14. Lot Size	15. Sample	16. Qty. Acc.	17. Inspection Criteria
N/A	1	1	0	☐ Dwg. ☐ Spec. ☐ Insp. Plan ☒ Other EJF 5.8, Appx A, Rev 3 Section 5.0, Item 4

18. Item	19. Description of Nonconformance (list serial no. where applicable)	22. Disposition, Justification, and Instructions
	THREE SAMPLES FOR VOLATILE ORGANIC ANALYSIS WERE COLLECTED AND IDENTIFIED AS SAMPLE B079V5. HOWEVER, CONTRARY TO THE SAMPLE COLLECTION CRITERIA REFERENCED IN BLOCK 17 ABOVE, ALL VOA VIALS WERE FOUND TO CONTAIN AIR BUBBLES.	The analysis shall be cancelled for VOA regarding the referenced sample.

20. Originator's Signature: [signature] Date: 1/29/93

21. Cognizant QA Manager's Signature: [signature] Date: 2-1-93

23. Design Document Change Required? ☐ Yes. Doc. No. _____ ☐ No

24. Corrective Action Required? ☐ Yes. No. _____ ☐ No

Disp. App.

25. Cognizant Engineer	Date	26. Technical Rep.	Date	Signature/Org.	Date
JW Roberts [signature]	2/5/93				

QA Engineer	Date	Signature/Org.	Date	Signature/Org.	Date
GS Corrigan [signature]	2-5-93				

Close

27. Accept 0 Reject 1 Follow on NCR NA

[signature] QA/C Personnel 2-9-93 Date

A-7310-104 (10/91)

9713507.2037

Westinghouse Hanford Company

NONCONFORMANCE REPORT

1. Page 1 of 1

2. Preprinted No. 051712

QA Log No. EQA-93-007

3. P. O., W. O., or Job Control No.	4. System/End Use	5. Item/Material	6. Dwg./Spec./Other No.	7. Rev.
N/A	RI/FS	WATER SAMPLES	N/A	N/A

8. Program/Project/Other: CERCLA 2.2.93
100-KR-4 / 92-266

9. Safety Class: N/A

10. ASME Code Items: ☐ Yes ☒ No (If yes, notify authorized inspector)

11. Supplier Name/Address: ENVIRONMENTAL FIELD SERVICES

12. Notification of Potential Occurence Required: ☐ Yes ☒ No

13. Code: Lot/Heat/Serial	14. Lot Size	15. Sample	16. Qty. Acc.	17. Inspection Criteria
N/A	X 4 2.2.93	X 4 2.2.93	0	☐ Dwg. ☐ Spec. ☐ Insp. Plan ☒ Other CLP STATEMENT OF WORK

18. Item	19. Description of Nonconformance (list serial no. where applicable)	22. Disposition, Justification, and Instructions
	ALL ALIQUOTS FOR SAMPLES B079V1, B079V4, B079V5, B07B49 WERE RECEIVED AT TMA AT 11°C. CLP STATEMENT OF WORK REQUIRES SAMPLES BE MAINTAINED AT 4°C ± 2°C.	The samples shall be analyzed. The data received from these analyses shall be flagged.

20. Originator's Signature: R. C. SMYTH — Date: 1/29/93

23. Design Document Change Required? ☐ Yes, Doc. No. _____ ☐ No

21. Cognizant QA Manager's Signature: W. C. Brackenridge for T. J. Bennington 2.2.93 — Date

24. Corrective Action Required? ☐ Yes, No. _____ ☐ No

Disp. App.

25. Cognizant Engineer	Date	26. Technical Rep.	Date	Signature/Org.	Date
JW Roberts	2/5/93				

QA Engineer	Date	Signature/Org.	Date	Signature/Org.	Date
GS Cornelison	2-5-93				

Close

27. Accept _____ Reject _____ Follow on NCR _____

QA/C Personnel _____ Date

A-7310-104 (10/91)

9713507.2038

Westinghouse Hanford Company

NONCONFORMANCE REPORT

1. Page 1 of 1

2. Preprinted No. 050523

QA Log No.

3. P. O., W. O., or Job Control No.	4. System/End Use	5. Item/Material	6. Dwg./Spec./Other No.	7. Rev.
N/A	RI/FS	Water Samples	N/A	N/A

8. Program/Project/Other	9. Safety Class	10. ASME Code Items (If yes, notify authorized inspector)
100-KR-4/92-266	N/A	☐ Yes ☒ No

11. Supplier Name/Address	12. Notification of Potential Occurence Required
Environmental Field Services	☐ Yes ☒ No

13. Code: Lot/Heat/Serial	14. Lot Size	15. Sample	16. Qty. Acc.	17. Inspection Criteria
N/A	1	1	N/A	☐ Dwg. ☐ Spec. ☐ Insp. Plan ☒ Other WHC-CM-7-7 ETI 5.8 and CLP Statement of Work

18. Item	19. Description of Nonconformance (list serial no. where applicable)	22. Disposition, Justification, and Instructions
1.	Sample B079V5 - all VOA vials (3) were received at TMA with air bubbles. (WHC-CM-7-7, ETI 5.8, Appendix A)	
2.	All aliquots for samples B079V1, B079V4, B079V5, and B0 7B49 were received at TMA at 11°C. (CLP Statement of Work, ILM02.0, Section D-4)	

20. Originator's Signature: Karl N. Pool — Date: 12/18/92

21. Cognizant QA Manager's Signature — Date

23. Design Document Change Required? ☐ Yes, Doc. No. _____ ☐ No

24. Corrective Action Required? ☐ Yes, No. _____ ☐ No

Disp. App.

25. Cognizant Engineer	Date	26. Technical Rep.	Date	Signature/Org.	Date
QA Engineer	Date	Signature/Org.	Date	Signature/Org.	Date

Close

27. Accept _____ Reject _____ Follow on NCR _____ QA/C Personnel _____ Date

A-7310-104 (10/

9713507.2039

B079V1-T

Westinghouse Hanford Company	NONCONFORMANCE REPORT	1. Page 1 of 1	2. Preprinted No. 051711 QA Log No.

3. P. O., W. O., or Job Control No.	4. System/End Use	5. Item/Material	6. Dwg./Spec./Other No.	7. Rev.
N/A	RI/FS	WATER SAMPLES	N/A	N/A

8. Program/Project/Other	9. Safety Class	10. ASME Code Items
100-KR-4/92-266	N/A	☐ Yes ☒ No (If yes, notify authorized inspector)

11. Supplier Name/Address	12. Notification of Potential Occurence Required
ENVIRONMENTAL FIELD SERVICES	☐ Yes ☒ No

13. Code: Lot/Heat/Serial	14. Lot Size	15. Sample	16. Qty. Acc.	17. Inspection Criteria
N/A	1	1	0	☐ Dwg. ☐ Spec. ☐ Insp. Plan ☒ Other EII 58, App A, Rev 3 Section 2.0, Item 4

18. Item	19. Description of Nonconformance (list serial no. where applicable)	22. Disposition, Justification, and Instructions
	THREE SAMPLES FOR VOLATILE ORGANIC ANALYSIS WERE COLLECTED AND IDENTIFIED AS SAMPLE B079V5. HOWEVER, CONTRARY TO THE SAMPLE COLLECTION CRITERIA REFERENCED IN BLOCK 17 ABOVE, ALL VOA VIALS WERE FOUND TO CONTAIN AIR BUBBLES.	

20. Originator's Signature	Date	23. Design Document Change Required?
R Clayton Smith	1/29/93	☐ Yes, Doc. No. _____ ☐ No
21. Cognizent QA Manager's Signature	**Date**	**24. Corrective Action Required?**
		☐ Yes, No. _____ ☐ No

Disp. App.	25. Cognizant Engineer	Date	26. Technical Rep.	Date	Signature/Org.	Date
	QA Engineer	Date	Signature/Org.	Date	Signature/Org.	Date

Close	27. Accept _____ Reject _____ Follow on NCR _____	QA/C Personnel	Date

A-7310-104 (1

9713507.2040

Westinghouse Hanford Company

NONCONFORMANCE REPORT

1. Page 1 of 1

2. Preprinted No. 051712

QA Log No.

3. P. O., W. O., or Job Control No.	4. System/End Use	5. Item/Material	6. Dwg./Spec./Other No.	7. Rev.
N/A	RI/FS	WATER SAMPLES	N/A	N/A

8. Program/Project/Other	9. Safety Class	10. ASME Code Items
100-KR-4 / 92-266	N/A	☐ Yes ☒ No (If yes, notify authorized inspector)

11. Supplier Name/Address: ENVIRONMENTAL FIELD SERVICES

12. Notification of Potential Occurence Required: ☐ Yes ☒ No

13. Code: Lot/Heat/Serial	14. Lot Size	15. Sample	16. Qty. Acc.	17. Inspection Criteria
N/A	1	1	0	☐ Dwg. ☐ Spec. ☐ Insp. Plan ☒ Other CLP STATEMENT OF WORK

18. Item	19. Description of Nonconformance (list serial no. where applicable)	22. Disposition, Justification, and Instructions
	ALL ALIQUOTS FOR SAMPLES B079V1, B079V4, B079V5, B07B49 WERE RECEIVED AT TMA AT 11°C.	

20. Originator's Signature: [signature] Date: 1/29/93

21. Cognizent QA Manager's Signature: Date

23. Design Document Change Required? ☐ Yes, Doc. No. _____ ☐ N

24. Corrective Action Required? ☐ Yes, No. _____ ☐ N

Disp. App.

25. Cognizant Engineer	Date	26. Technical Rep.	Date	Signature/Org.	Da
QA Engineer	Date	Signature/Org.	Date	Signature/Org.	Da

Close

27. Accept _____ Reject _____ Follow on NCR _____ QA/C Personnel

A-7310-104

9213597.2041

Dmo

OFFICE OF SAMPLE MANAGEMENT
RECORD OF DISPOSITION

ROD-92-00173
Record of Disposition No.

DATE: October 20, 1992	LABORATORY: TMA
PROJECT TITLE/NO.: 100-KR-4/92-266	NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS:

- B079X6

DESCRIPTION OF EVENT:

- Sample Bottle B079X6 was broken in transit to the TMA Laboratory. There was insufficient sample remaining to perform VOA analysis.

DISPOSITION OF SAMPLES:

- With concurrence from Jim Roberts, the VOA analysis will be canceled.

APPROVAL SIGNATURES:

K. N. Pool — 10/21/92
OSM Project Coordinator (Print/Sign Name) — Date

J. Roberts — 10/22/92
Technical Representative (Print/Sign Name) — Date

N/A
Quality Assurance (Print/Sign Name) — Date

9713507.2042

000046

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079V1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B12

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (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	3	J
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	
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	1	J
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	1	J
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	1	J
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

9713507.2043

000047

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B079V1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B12

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (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

NV
6/14/93

9713507.2044

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 000063

B079V5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B15

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	3	J
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

NV PEI 6/14/

9713507.2045

000064

EPA SAMPLE NO.

B079V5

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B15

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (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

NV
PBS
6/14/94

9213507.2046

000011

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079V1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S18

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/07/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

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

NV PBA 6/14/

9713507.2047

000012

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079V1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S18

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/07/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

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	10	U
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

NV PBJ 6/14/

9713507.2048

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000013
EPA SAMPLE NO.

B079V1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S18

Level: (low/med) LOW Date Received: 10/05/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/07/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.52	2	J
2.	UNKNOWN COMPOUND	21.10	11	J

NV
PBJ
6/14/9

9713507.2049

000614
EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B079V1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10024 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210024-01D

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/05/92

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 10/07/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/22/92

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

NV
PBC
6/14/

9713507.2050

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

B079V1

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: SKINER Case No.: N2-10-027SAS No.: SDG No.: B079V1

Matrix (soil/water): WATER Lab Sample ID: 10145-01S

Level (low/med): LOW Date Received: 10/06/92

% 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	79.7	B		P
7440-36-0	Antimony	14.8	U		P
7440-38-2	Arsenic	6.5	B		F
7440-39-3	Barium	28.6	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	57200			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	50.4	B		P
7439-92-1	Lead	2.5	B		F
7439-95-4	Magnesium	12500			P
7439-96-5	Manganese	1.1	B		P
7439-97-6	Mercury	0.11	B		CV
7440-02-0	Nickel	2.6	U		P
7440-09-7	Potassium	5130			P
7782-49-2	Selenium	3.9	U	WN	F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	9900			P
7440-28-0	Thallium	3.8	U	W	F
7440-62-2	Vanadium	8.7	B		P
7440-66-6	Zinc	6.3	B		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

NW 6/14/93

9713507.2051

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B079V4

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

Lab Code: SKINER Case No.: N2-10-027SAS No.: SDG No.: B079V4

Matrix (soil/water): WATER Lab Sample ID: 10148-01S

Level (low/med): LOW Date Received: 10/06/92

% 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	21.4	U		P
7440-36-0	Antimony	16.9	U		P
7440-38-2	Arsenic	2.9	U		F
7440-39-3	Barium	29.8	B		P
7440-41-7	Beryllium	0.60	B		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	55800			P
7440-47-3	Chromium	4.5	U		P
7440-48-4	Cobalt	2.7	U		P
7440-50-8	Copper	3.5	U		P
7439-89-6	Iron	46.0	B		P
7439-92-1	Lead	6.3		N*	F
7439-95-4	Magnesium	12400			P
7439-96-5	Manganese	4.7	U		P
7439-97-6	Mercury	0.11	B		CV
7440-02-0	Nickel	5.4	U		P
7440-09-7	Potassium	5320			P
7782-49-2	Selenium	3.8	U	MWN	F
7440-22-4	Silver	2.5	U		P
7440-23-5	Sodium	10100			P
7440-28-0	Thallium	1.3	U		F
7440-62-2	Vanadium	8.6	B		P
7440-66-6	Zinc	2.7	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLOUDY Artifacts:

NV PSI 6/15/

Comments:

FORM I - IN ILM02.1

9713507.2052

000009

TMA Inc. REPORT Work Order # A2-10-024

Received: 10/05/92

Results by Sample

SAMPLE ID B079V1 FRACTION 01G TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/29/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	4.4	mg/L	0.2
Fluoride	300.0	0.3	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	150.1	8.1	pH	0.1
Sulfate	300.0	33	mg/L	1
Elect. Conductivity	120.1	421	umho/cm	6

FORM I

NV
PBD
6/14/93

TMA Inc. REPORT Work Order # A2-10-024

Received: 10/05/92

Results by Sample

SAMPLE ID B079V1 FRACTION 01J TEST CODE VCCLPL NAME Anions & Wet Chem. - VM043

Date & Time Collected 09/29/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	102	mg/L	2
Tot. Dissolved Solids	160.1	306	mg/L	5

FORM I

NM
PBJ
6/14/9

9713507.2054

000011

TMA Inc. REPORT Work Order # A2-10-024

Received: 10/05/92

Results by Sample

SAMPLE ID B079V1 FRACTION 01L TEST CODE VCCLPL NAME Anions & Wet Chem. - VH043

Date & Time Collected 09/29/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

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

FORM I

NV
PBJ
6/14/7

TMA Inc. REPORT Work Order # A2-10-024

Received: 10/05/92

Results by Sample

SAMPLE ID B079V1 FRACTION 01Q TEST CODE VCCLPL NAME Anions & Wet Chem. - VN043

Date & Time Collected 09/29/92 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

VN PBJ 6/14/93

9713507.2056

N209172-04

TMA NORCAL
REPORTING GROUP 7110

DATA SHEET

B079V1

WC

SDG 7110
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N209172-04
Dept sample id 7110-004
Received 10/05/92

Client sample id B079V1
Matrix WATER
Collected 09/29/92
Chain of custody id EFL-1048

AD = 12-0-93

PARAMETER	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Gross Alpha	Alpha	2.8	2.1	2	3	AR	80A
Gross Beta	Beta	9.3	1.7	2	4		80B
Uranium 233/234		1.4	0.33	0.2	0.2		U
Uranium 235	15117-96-1	0.070	0.070	0.1	0.2	AR	U
Uranium 238	7440-61-1	0.86	0.25	0.1	0.2		U
Plutonium 238	13981-16-3	-0.010	0.019	0.06	0.05	U	PU
Plutonium 239/240		0.005	0.019	0.04	0.05	U	PU
Americium 241	14596-10-2	0.002	0.021	0.04	0.05	UR	AM
Strontium 90	10098-97-2	0.18	2.7	0.8	2	UJ	K
Technetium 99	14133-76-7	1.3	1.2	2	5	U	TC
Tritium	10028-17-8	1600000	32000	300	400	R	H
Carbon 14	14762-75-5	17000	180	50	50	XJ	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		90		U	GAM
Iron 59		U		50	30	U	GAM
Chromium 51	14392-02-0	U		400		U	GAM
Cobalt 60	10198-40-0	U		8	30	U	GAM
Zinc 65	17982-39-3	U		20		U	GAM
Ruthenium 106	13967-48-1	U		70		U	GAM
Cesium 134	17967-70-9	U		8		U	GAM
Cesium 137	10045-97-3	U		7	20	U	GAM
Europium 152	14683-23-9	U		10	40	U	GAM
Europium 154	15585-10-1	U		9	40	U	GAM
Radium 226	13982-67-7	U		20		U	GAM
Thorium 228	14274-82-9	U		10		U	GAM
Thorium 232	7440-29-1	U		30		U	GAM

eff L 20% J
LCS hi
RB 2-25-93
LCS low
LCS=52
LCS hi
RPD=80; ±2LL
LCS=79

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.22
Report date 02/01/93

PB 6/15/93

2097

9713507.2057

TMA NORCAL

REPORTING GROUP 7110

DATA SHEET

N209172-01

B07B16

AD= 11/20/93

SDG	7110	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBM-SVV-069262
Lab sample id	N209172-01	Client sample id	B07B16
Dept sample id	7110-001	Matrix	WATER
Received	10/01/92	Collected	09/29/92
		Chain of custody id	EFL-1048

PARAMETER	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	
Gross Alpha	Alpha	3.9	2.2	3	3	R	80A	eff <20%,
Gross Beta	Beta	21	1.5	1	4		80B	
Uranium 233/234		2.4	0.36	0.1	0.2		U	
Uranium 235	15117-96-1	0.15	0.086	0.1	0.2	VR	U	LCS hi
Uranium 238	7440-61-1	1.8	0.29	0.07	0.2		U	
Plutonium 238	13981-16-3	-0.004	0.023	0.05	0.05	U	PU	
Plutonium 239/240		0.015	0.015	0.03	0.05	U	PU	
Americium 241	14596-10-2	0.005	0.019	0.04	0.05	UR	AM	LCS lo
Strontium 90	10098-97-2	0.33	1.6	1	2	UJ	Y	LCS =52
Technetium 99	14133-76-7	0.57	2.4	8	5	U	TC	
Tritium	10028-17-8	390	180	300	400	VR	H	LCS hi
Carbon 14	14762-75-5	170	30	40	50	VJ	C	RPD out, LCS = ;
GAMMA SCAN ANALYTES								
Potassium 40	13966-00-2	U		100		U	GAM	
Iron 59		U		70	30	U	GAM	
Chromium 51	14392-02-0	U		600		U	GAM	
Cobalt 60	10198-40-0	17	8.4		30	J	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		10	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	02/01/93

PBD 6/15/93

9713507.2058

TMA NORCAL

REPORTING GROUP 7110

N209172-03

B07BX1

DATA SHEET

AD = 10/93

SDG	7110	Client	Westinghouse Hanford
Contact	Dinker Kherker	Contract	MBH-SVV-069262
Lab sample id	N209172-03	Client sample id	B07BX1
Dept sample id	7110-003	Matrix	WATER
Received	10/02/92	Collected	09/30/92
		Chain of custody id	EFL-1048

PARAMETER	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	2.3	2.0	2	3	~~R~~	80A
Gross Beta	Beta	5.7	1.5	2	4		80B
Uranium 233/234		2.2	0.39	0.2	0.2		U
Uranium 235	15117-96-1	0.098	0.084	0.1	0.2	~~UR~~	~~U~~
Uranium 238	7440-61-1	1.9	0.36	0.1	0.2		U
Plutonium 238	13981-16-3	0.004	0.015	0.04	0.05	U	PU
Plutonium 239/240		-0.004	0.007	0.03	0.05	U	PU
Americium 241	14596-10-2	0.031	0.019	0.02	0.05	~~UR~~	~~AM~~
Strontium 90	10098-97-2	4.5	0.48	0.8	2		~~SR~~
Technetium 99	14133-76-7	1.9	1.2	2	5	U	TC
Tritium	10028-17-8	7000	370	300	400	~~R~~	~~H~~
Carbon 14	14762-75-5	15000	170	50	50	~~XJ~~	~~C~~
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		200		U	GAM
Iron 59		U		60	30	U	GAM
Chromium 51	14392-02-0	U		400		U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Zinc 65	17982-39-3	U		20		U	GAM
Ruthenium 106	13967-48-1	U		90		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		10	40	U	GAM
Radium 226	13982-67-7	U		30		U	GAM
Thorium 228	14274-82-9	U		10		U	GAM
Thorium 232	7440-29-1	U		40		U	GAM

LCS hi

LCS hi

LCS 10

LCS 52

LCS hi

RPD out, LCS 7

PBD 6/15/93

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.22
Report date	02/01/93

9713507.2059

TMA NORCAL

REPORTING GROUP 7110

DATA SHEET

N209172-02

B07BX6

SDG	7110	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBN-SVV-069262
Lab sample id	N209172-02	Client sample id	B07BX6
Dept sample id	7110-002	Matrix	WATER
Received	10/01/92	Collected	09/29/92
		Chain of custody id	EFL-1048

AD = 1/20/93

PARAMETER	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Gross Alpha	Alpha	1.9	1.9	2	3	~~J~~R	80A
Gross Beta	Beta	71	2.4	1	4		80B
Uranium 233/234		2.3	0.36	0.1	0.2		U
Uranium 235	15117-96-1	0.16	0.092	0.09	0.2	~~J~~R	U
Uranium 238	7440-61-1	1.8	0.31	0.09	0.2		U
Plutonium 238	13981-16-3	-0.004	0.014	0.03	0.05	U	PU
Plutonium 239/240		0.014	0.014	0.03	0.05	U	PU
Americium 241	14596-10-2	-0.016	0.018	0.04	0.05	~~J~~R	AM
Strontium 90	10098-97-2	24	5.4	1	2	J	Y
Technetium 99	14133-76-7	-2.2	5.2	20	5	~~J~~R	TC
Tritium	10028-17-8	8700	410	300	400	R	H
Carbon 14	14762-75-5	12000	130	50	50	XJ	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		80		U	GAM
Iron 59		U		50	30	U	GAM
Chromium 51	14392-02-0	U		400		U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Zinc 65	17982-39-3	U		20		U	GAM
Ruthenium 106	13967-48-1	U		70		U	GAM
Cesium 134	17967-70-9	U		8		U	GAM
Cesium 137	10045-97-3	U		8	20	U	GAM
Europium 152	14683-23-9	U		10	40	U	GAM
Europium 154	15585-10-1	U		9	40	U	GAM
Radium 226	13982-67-7	U		10		U	GAM
Thorium 228	14274-82-9	U		10		U	GAM
Thorium 232	7440-29-1	U		30		U	GAM

LCS 207, LC hi. RB 2/25/93

LCS hi

LCS lo

LCS = 5

yield = 17%

LCS hi

MPD out

LCS = 79

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.22
Report date	02/01/93

PBD 6/15/93

9713507.2060

000005

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

WC

EPA SAMPLE NO.

B079Y0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B12

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

Location: 199-K-4

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 ~~7~~	~~J~~ 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

b/k

RB 2/18

RB 6/14/7

9213507.2061

000006

EPA SAMPLE NO.

B079Y0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B12

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (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

MB
2/18/93

9213507.2062

000007

EPA SAMPLE NO.

B07B16

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B07

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (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	(ug/L or ug/Kg) UG/L	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 ~~4~~	~~J~~ 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	2	J
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

blk cc

AB 2/18/9

FT 6/14/92

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07B16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B07

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (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.

B07B20

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B10

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (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 ~~8~~	JU
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

blk or RB 2/18

BJ 6/4/9

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07B20

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B10

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (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

9213507.2066

000011

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07B50

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B11

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

Location: 199-K-23

Remarks: MB

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	3	J
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

6/14/93

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07B50

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21005B11

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: not dec. ____ Date Analyzed: 10/05/92

GC Column: CAP ID: 0.530 (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

9214507.2069

000013
EPA SAMPLE NO.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B079X6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S12

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/05/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		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	20	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

DONE
VSR
RB
2/18

9213507.2069

000014

EPA SAMPLE NO.

B079X6

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S12

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/05/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

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	570	BE
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

Not USE

RB

4/8

(1) - Cannot be separated from Diphenylamine

9213507.2070

000015

EPA SAMPLE NO.

B079X6

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S12

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/05/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN COMPOUND	21.12	9	J
2.	UNKNOWN CARBOXYLIC ACID ESTE	25.40	2	J

DI/NOT USE

RB 2/13

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079X6RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21026S09

Level: (low/med) LOW Date Received: 10/01/92 50 = ?

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/15/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/92

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 J
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

H.T.
RB 2/18

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079X6RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21026S09

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/15/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/92

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 J
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	10	U
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

RB 2/16/95

(1) - Cannot be separated from Diphenylamine

BB 6/14/95

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B079X6RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21026S09

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/15/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALCOHOL	6.07	180	J
2.	UNKNOWN COMPOUND	21.05	8	J

RB
2/16/93

9715507.2074

000019

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07B16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S09

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/05/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

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

RA 2/18

9214507.2025

000020
EPA SAMPLE NO.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07B16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S09

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/05/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		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	6	BJ
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

RB 2/12

6/14

9213507.2076

000021

EPA SAMPLE NO.

B07B16

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S09

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/05/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.52	3	J
2.	UNKNOWN COMPOUND	8.78	5	J
3.	UNKNOWN COMPOUND	21.07	3	J

DO NOT USE
FB 2/18

PRD 9/14/93

9213507.2077

000022

EPA SAMPLE NO.

B07B16RE

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21026S08

Level: (low/med) LOW Date Received: 10/01/92 SD

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/15/92 WC

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U J
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 J

H.T.'s

BB 2/18/9

9713507.2078

000023

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07B16RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21026S08

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/15/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/92

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	10	B
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

HTS

RB 2/18/

FORM I SV-2 3/90

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07B16RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21026S08

Level: (low/med) LOW Date Received: 10/01/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/15/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN KETONE	8.72	4	J
2.	UNKNOWN COMPOUND	20.98	3	J

RB
2/18/93

9213507.2080

000025

EPA SAMPLE NO.

B079X6

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A210010-04B

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

Moisture: _____ decanted: (Y/N) ___ Date Received: 10/01/92

xtraction: (SepF/Cont/Sonc) CONT Date Extracted: 10/05/92

oncentrated Extract Volume: 10000 (uL) Date Analyzed: 10/15/92

njection Volume: 1.00 (uL) Dilution Factor: 1.00

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

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	UJ
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	UJ
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

validated RB 2/19/9

RB 6/14/93

9715507.2081

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000026
EPA SAMPLE NO.

B07B16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10010 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210010-01D

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/01/92

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 10/05/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/16/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	UJ
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	UJ
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

calib. RSD

MB 2/19/

BJ 6/14/93

9713587.2082

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B079X1

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

Lab Code: SKINFR Case No.: N2-10-003SAS No.: SDG No.: B079X6

Matrix (soil/water): WATER Lab Sample ID: 10078-03S

Level (low/med): LOW Date Received: 10/03/92

% 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	136	~~B~~	U	P
7440-36-0	Antimony	15.2	~~B~~	U	P
7440-38-2	Arsenic	2.2	U		F
7440-39-3	Barium	47.0	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U	U	P
7440-70-2	Calcium	77100			P
7440-47-3	Chromium	25.7			P
7440-48-4	Cobalt	1.3	U		P
7440-50-8	Copper	1.9	U	U	P
7439-89-6	Iron	302			P
7439-92-1	Lead	1.9	B		F
7439-95-4	Magnesium	9860			P
7439-96-5	Manganese	33.7			P
7439-97-6	Mercury	0.10	U	U	CV
7440-02-0	Nickel	14.8	~~B~~	U	P
7440-09-7	Potassium	4370	B		P
7782-49-2	Selenium	3.6	U		F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	13800			P
7440-28-0	Thallium	3.8	U	~~U~~ UJ	F
7440-62-2	Vanadium	2.5	U		P
7440-66-6	Zinc	68.3		U	P
	Cyanide	10.0	U		CA

2/23/93 LIN

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLOUDY Artifacts:

Comments:

6/14/93

1. 002

FORM I - IN ILM02.1

9213507.2083

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B079X6

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

Lab Code: SKINER Case No.: N2-10-003 SAS No.: SDG No.: B079X6

Matrix (soil/water): WATER Lab Sample ID: 10078-02S

Level (low/med): LOW Date Received: 10/02/92

% 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	36.4	~~B~~	U	P
7440-36-0	Antimony	14.8	U	U	P
7440-38-2	Arsenic	2.4	B		F
7440-39-3	Barium	61.8	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U	U	P
7440-70-2	Calcium	55600			P
7440-47-3	Chromium	105			P
7440-48-4	Cobalt	1.3	U		P
7440-50-8	Copper	1.9	U	U	P
7439-89-6	Iron	120			P
7439-92-1	Lead	1.1	B		F
7439-95-4	Magnesium	10800			P
7439-96-5	Manganese	183			P
7439-97-6	Mercury	0.10	U	U	CV
7440-02-0	Nickel	8.5	~~B~~	U	P
7440-09-7	Potassium	4140	B		P
7782-49-2	Selenium	3.6	U		F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	18300			P
7440-28-0	Thallium	3.8	U	UJ	F
7440-62-2	Vanadium	2.5	U		P
7440-66-6	Zinc	44.4		U	P
	Cyanide	10.0	U		CA

2/23/93 JN

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

003

6/14/93

FORM I - IN ILM02.1

9213507.2084

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B07B16

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

Lab Code: SKINER Case No.: N2-10-003SAS No.: SDG No.: B079X6

Matrix (soil/water): WATER Lab Sample ID: 10078-01S

Level (low/med): LOW Date Received: 10/02/92

% Solids: 0.0

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

2/23/93 JN

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	471			P
7440-36-0	Antimony	14.8	U	U	P
7440-38-2	Arsenic	7.9	B		F
7440-39-3	Barium	37.9	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U	U	P
7440-70-2	Calcium	53300			P
7440-47-3	Chromium	159			P
7440-48-4	Cobalt	2.5	B		P
7440-50-8	Copper	5.1	~~B~~	U	P
7439-89-6	Iron	1300			P
7439-92-1	Lead	3.1			F
7439-95-4	Magnesium	13700			P
7439-96-5	Manganese	39.8			P
7439-97-6	Mercury	0.10	U	U	CV
7440-02-0	Nickel	5.3	~~B~~	U	P
7440-09-7	Potassium	8510			P
7782-49-2	Selenium	3.6	U	~~U~~ UJ	F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	19800			P
7440-28-0	Thallium	3.8	U	~~U~~ UJ	F
7440-62-2	Vanadium	15.8	B		P
7440-66-6	Zinc	26.3		U	P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLOUDY Artifacts:

Comments:

004

6/14/93

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B079X4

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

Lab Code: SKINER Case No.: N2-10-003$AS No.: SDG No.: B079X9

Matrix (soil/water): WATER Lab Sample ID: 10080-03S

Level (low/med): LOW Date Received: 10/03/92

% 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	U		P
7440-38-2	Arsenic	2.9	U		F
7440-39-3	Barium	44.7	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	76400			P
7440-47-3	Chromium	4.3	B		P
7440-48-4	Cobalt	1.3	U		P
7440-50-8	Copper	1.9	U		P
7439-89-6	Iron	4.0	U		P
7439-92-1	Lead	2.5	B		F
7439-95-4	Magnesium	9670			P
7439-96-5	Manganese	33.1			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.6	U		P
7440-09-7	Potassium	4330	B		P
7782-49-2	Selenium	3.8	U		F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	13700			P
7440-28-0	Thallium	1.7	U	~~UN~~ UJ	F
7440-62-2	Vanadium	2.5	U		P
7440-66-6	Zinc	5.7	U		P
	Cyanide				NR

2/24/93

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

PBD 6/14/93

9713507.2086

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B079X9

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

Lab Code: SKINER Case No.: N2-10-003SAS No.: SDG No.: B079X9

Matrix (soil/water): WATER Lab Sample ID: 10080-02S

Level (low/med): LOW Date Received: 10/02/92

% 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	27.6	~~B~~ U		P
7440-36-0	Antimony	14.8	U		P
7440-38-2	Arsenic	2.9	U		F
7440-39-3	Barium	61.1	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	56000			P
7440-47-3	Chromium	93.3			P
7440-48-4	Cobalt	1.3	U		P
7440-50-8	Copper	1.9	U		P
7439-89-6	Iron	28.3	~~B~~ U		P
7439-92-1	Lead	2.7	B		F
7439-95-4	Magnesium	10900			P
7439-96-5	Manganese	177			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.6	U		P
7440-09-7	Potassium	4160	B		P
7782-49-2	Selenium	3.8	U	~~N~~ UJ	F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	18800			P
7440-28-0	Thallium	1.7	U	~~N~~ UJ	F
7440-62-2	Vanadium	2.5	U		P
7440-66-6	Zinc	10.4	~~B~~ U		P
	Cyanide				NR

2/24/93 fwe

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

RD 6/14/93

9715507.2087

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B07B19

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

Lab Code: SKINER Case No.: N2-10-003 SAS No.: SDG No.: B079X9

Matrix (soil/water): WATER Lab Sample ID: 10080-01S

Level (low/med): LOW Date Received: 10/02/92

% Solids: 0.0

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

2/24/93 JN

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14.7	U		P
7440-36-0	Antimony	17.4	~~B~~ U		P
7440-38-2	Arsenic	2.9	U	~~U~~ UJ	F
7440-39-3	Barium	31.8	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	54500			P
7440-47-3	Chromium	144			P
7440-48-4	Cobalt	1.3	U		P
7440-50-8	Copper	1.9	U		P
7439-89-6	Iron	11.8	~~B~~ U		P
7439-92-1	Lead	3.6			F
7439-95-4	Magnesium	13900			P
7439-96-5	Manganese	4.2	~~B~~ U		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.6	U		P
7440-09-7	Potassium	8770			P
7782-49-2	Selenium	3.8	U	~~U~~ UJ	F
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	20500			P
7440-28-0	Thallium	1.7	U	~~U~~ UJ	F
7440-62-2	Vanadium	11.9	B		P
7440-66-6	Zinc	8.2	~~B~~ U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

BD 6/14/93

TMA Inc. REPORT Work Order # A2-10-010

Received: 10/01/92

Results by Sample

SAMPLE ID 8079X6 FRACTION 04E TEST CODE VCCLPL NAME Anions & Wet Chem. - VN043

Date & Time Collected 09/29/92 Category

2/24/93 JN

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT		
Chloride	300.0	11.7	mg/L	0.2	J	Holding Time
Fluoride	300.0	0.3	mg/L	0.1	J	Holding Time
Phosphate	300.0	<0.4	mg/L	0.4	R	Holding Time Matrix Spike
pH	150.1	7.8	pH	0.1	J	Holding Time
Sulfate	300.0	33	mg/L	1	J	Holding Time
Elect. Conductivity	120.1	355	umho/cm	6		

FORM I

6/14/93

9213507.2089

TMA Inc. REPORT Work Order # A2-10-010

Received: 10/01/92

Results by Sample

SAMPLE ID B079X6 FRACTION 04G TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/29/92 Category

2/24/93

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT		
Alkalinity	310.1	160	mg/L	2	J	Holding Time
Tot. Dissolved Solids	160.1	261	mg/L	5	R	Holding Time

FORM I

6/14/93

TMA Inc. REPORT Work Order # A2-10-010

Received: 10/01/92

Results by Sample

SAMPLE ID B079X6 FRACTION 04N TEST CODE VCCLPL NAME Anions & Wet Chem. - VH043

Date & Time Collected 09/29/92 Category

2/24/93 fm

ANIONS AND WET CHEMISTRY - LIQUIDS

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

FORM I

BB 6/14/93

9713507.2091

TMA Inc. REPORT Work Order # A2-10-010

Received: 10/01/92

Results by Sample

SAMPLE ID B079X6 FRACTION 04J TEST CODE WCCLPL NAME Anions & Wet Chem. - WK043

Date & Time Collected 09/29/92 Category

2/24/93 JM

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Ammonia Nitrogen	350.3	0.07	mg/L	0.05	RJ Holding Time
COD	410.0	<30	mg/L	30	RJ Holding Time

FORM I

PBJ 6/14/93

9715507.2092

TMA Inc. REPORT Work Order # A2-10-010

Received: 10/01/92 Results by Sample

SAMPLE ID B07B16 FRACTION 01G TEST CODE WCCLPL NAME Anions & Wet Chem. - WM043

Date & Time Collected 09/29/92 Category

2/24/93

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT		
Chloride	300.0	5.6	mg/L	0.2	J	Holding Time
Fluoride	300.0	0.4	mg/L	0.1	J	Holding Time
Phosphate	300.0	<0.4	mg/L	0.4	R	Holding Time Matrix Spike
pH	150.1	7.9	pH	0.1	J	Holding Time
Sulfate	300.0	46	mg/L	1	J	Holding Time
Elect. Conductivity	120.1	371	umho/cm	6		

FORM I

6/14/93

TMA Inc. REPORT Work Order # A2-10-010

Received: 10/01/92 Results by Sample

SAMPLE ID B07B16 FRACTION 01I TEST CODE WCCLPL NAME Anions & Wet Chem. - VN043

Date & Time Collected 09/29/92 Category

2/24/93 (fin)

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Alkalinity	310.1	150	mg/L	2	J Holding Time
Tot. Dissolved Solids	160.1	311	mg/L	5	R Holding Time

FORM I

PBJ 6/14/93

9713507.2094

TRA Inc. REPORT Work Order # A2-10-010

Received: 10/01/92

Results by Sample

SAMPLE ID B07B16 FRACTION 01K TEST CODE WCCLPL NAME Anions & Wet Chem. - VN043

Date & Time Collected 09/29/92 Category

2/24/93

ANIONS AND WET CHEMISTRY - LIQUIDS

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

Holding Time

FORM I

6/14/93

TMA Inc. REPORT Work Order # A2-10-010

Received: 10/01/92

Results by Sample

SAMPLE ID B07B16 FRACTION 01M TEST CODE WCCLPL NAME Anions & Wet Chem. - WM043

Date & Time Collected 09/29/92 Category

2/24/93 fm

ANIONS AND WET CHEMISTRY - LIQUIDS

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

FORM I

DSJ 6/14/93

92A5907.2096

000002

Received: 10/02/92 Results by Sample

2/24/93 JW

SAMPLE ID B07B16 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 09/29/92 Category WATER

NO3NO2 10.7 mg N/L J

SAMPLE ID B079X6 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 09/29/92 Category WATER

NO3NO2 3.38 mg N/L J

SAMPLE ID B079X6D SAMPLE # 02 FRACTIONS: B
Date & Time Collected 09/29/92 Category WATER

NO3NO2 3.36 mg N/L

SAMPLE ID B079X6S SAMPLE # 02 FRACTIONS: C
Date & Time Collected 09/29/92 Category WATER

NO3NO2 5.06 mg N/L

SAMPLE ID B079X1 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 09/30/92 Category WATER

NO3NO2 12.0 mg N/L J

SAMPLE ID LCSW SAMPLE # 04 FRACTIONS: A
Date & Time Collected not specified Category WATER

NO3NO2 1.98 mg N/L

6/14/93

9713507.2097

000005

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079X1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B04

Level: (low/med) LOW Date Received: 10/02/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (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	~~1~~ 10	~~J~~ 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	1	J
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	18	
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

B 2/22/91

BB 6/14/

9713507.2098

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000006
EPA SAMPLE NO.

B079X1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B04

Level: (low/med) LOW Date Received: 10/02/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (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

9713507.2099

000007

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079X5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B07

Level: (low/med) LOW Date Received: 10/02/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (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	7	J
67-64-1	Acetone	9	J
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 2/22/9

9713507.2100

000008
EPA SAMPLE NO.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B079X5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 21009B07

Level: (low/med) LOW Date Received: 10/02/92

% Moisture: not dec. ____ Date Analyzed: 10/09/92

GC Column: CAP ID: 0.530 (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 2/22/93

9713507.2101

000009

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079X1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S14

Level: (low/med) LOW Date Received: 10/02/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/07/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

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

Pat 2/22

6/14/

9713507.2102

000010

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B079X1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S14

Level: (low/med) LOW Date Received: 10/02/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/07/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

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	10	U
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

RB 2/22/

(1) - Cannot be separated from Diphenylamine

9713507.2103

000011

EPA SAMPLE NO.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B079X1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 21013S14

Level: (low/med) LOW Date Received: 10/02/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 10/07/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/14/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN COMPOUND	21.13	16	J

AB
2/22/93

9713507.2104

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000012
EPA SAMPLE NO.

B079X1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10017 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A210017-01D

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/02/92

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 10/07/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/16/92

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	UJ
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

RB 2/23/93

B 6/14/

TMA Inc. REPORT Work Order # A2-10-017

Received: 10/02/92

Results by Sample

SAMPLE ID B079X1 FRACTION 01G TEST CODE WCCLPL NAME Anions & Wet Chem. - WM043

Date & Time Collected 09/30/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Chloride	300.0	11.9	mg/L	0.2	
Fluoride	300.0	<0.1	mg/L	0.1	U
Phosphate	300.0	<0.4	mg/L	0.4	R
pH	150.1	7.9	pH	0.1	J
Sulfate	300.0	72	mg/L	1	
Elect. Conductivity	120.1	376	umho/cm	6	

2/23/93 fm

FORM I

PBJ 6/14/93

TMA Inc. REPORT Work Order # A2-10-017

Received: 10/02/92

Results by Sample

SAMPLE ID B079X1 FRACTION 01J TEST CODE WCCLPL NAME Anions & Wet Chem. - WK043

Date & Time Collected 09/30/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Alkalinity	310.1	121	mg/L	2	J
Tot. Dissolved Solids	160.1	321	mg/L	5	R

2/23/93 fm

FORM I

BJ 6/14/93

TMA Inc. REPORT Work Order # A2-10-017

Received: 10/02/92 Results by Sample

SAMPLE ID B079X1 FRACTION 01L TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043
Date & Time Collected 09/30/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

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

R 2/23/93 fm

FORM I

BD 6/14/93

TMA Inc. REPORT Work Order # A2-10-017

Received: 10/02/92 Results by Sample

SAMPLE ID B079X1 FRACTION 010 TEST CODE WCCLPL NAME Anions & Wet Chem. - VN043
Date & Time Collected 09/30/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Ammonia Nitrogen	350.3	0.30	mg/L	0.05	J
COD	410.0	~~1~~30	mg/L	30	UJ

2/22/93 LM

FORM I

RJ 6/14/93