9613473.1408

START

B06ZQ7-TMA-217

000002

0045168

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 06-080

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : June 25, 1992

SEP 1996
RECEIVED
EDMC

1.0 DESCRIPTION OF CASE :

Two water samples were analyzed for TCL Organics-Volatiles, Semivolatiles, and Pesticide/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
B06ZQ7	A2-06-080-01A	V	WATER	7
B06ZQ7	A2-06-080-01B	SV & P	WATER	
B06ZQ7 MS	A2-06-080-01C	SV & P	WATER	
B06ZQ7 MSD	A2-06-080-01D	SV & P	WATER	
B06ZQ9	A2-06-080-02A	V	WATER	7
B06ZQ9 MS	A2-06-080-02B	V	WATER	7
B06ZQ9 MSD	A2-06-080-02C	V	WATER	7

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

All samples were received unbroken and properly documented. One of the three VOA vials for sample B06ZQ9 was received at TMA/Norcal with an air bubble.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL WATER :

The samples were analyzed within the CLP SOW holding times. All 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 matrix spike recovery of 4-Nitrophenol for sample B06ZQ7MS was above the QC limits. No further action was required by the protocol. All of the other QC results were within the limits specified by the EPA CLP SOW.

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 7/7/92 and was analyzed in accordance with the EPA CLP SOW. The instrument blanks, PEMs and calibration verification standards all met the requirements established by the EPA CLP SOW.

SAMPLE NOTES :

LOW LEVEL WATER :

The samples were extracted and analyzed within the CLP SOW holding times. All of the QC results were within the limits specified by the EPA CLP SOW.

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

9613473.1410

000004
EPA SAMPLE NO.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

B06ZQ7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 06080 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A206080-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 20629R05

Level: (low/med) LOW Date Received: 06/25/92

% Moisture: not dec. ____ Date Analyzed: 06/29/92

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

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

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

9613473.1411

000005

EPA SAMPLE NO.

B06ZQ7

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 06080 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A206080-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 20629R05

Level: (low/med) LOW Date Received: 06/25/92

% Moisture: not dec. ____ Date Analyzed: 06/29/92

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

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613473.1412

000006

EPA SAMPLE NO.

B06ZQ9

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 06080 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A206080-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 20629R06

Level: (low/med) LOW Date Received: 06/25/92

% Moisture: not dec. ____ Date Analyzed: 06/29/92

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

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

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	0.9	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

9613473.1413

000007
EPA SAMPLE NO.

B06ZQ9

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 06080 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A206080-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 20629R06

Level: (low/med) LOW Date Received: 06/25/92

% Moisture: not dec. ____ Date Analyzed: 06/29/92

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

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613473.1414

000008

EPA SAMPLE NO.

B06ZQ7

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 06080 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A206080-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 20721N06

Level: (low/med) LOW Date Received: 06/25/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/29/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/21/92

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

9613473.1415

000009

EPA SAMPLE NO.

B06ZQ7

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 06080 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A206080-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 20721N06

Level: (low/med) LOW Date Received: 06/25/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/29/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/21/92

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	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

9613473.1416

000010

EPA SAMPLE NO.

B06ZQ7

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 06080 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A206080-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 20721N06

Level: (low/med) LOW Date Received: 06/25/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/29/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/21/92

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	4.23	9	BJ
2.	Unknown hydrocarbon	7.13	7	BJ
3.	Unknown ketone	8.70	4	BJ

9613473.1417

000011
EPA SAMPLE NO.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

B06ZQ7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 06080 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A206080-01B

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 06/25/92

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 06/29/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/92

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

9613473.1418

000002

Westinghouse Hanford Company	CHAIN OF CUSTODY	ARLI

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Project Designation/Sampling Locations 200AAMS

Ice Chest No. SAL-143

Bill of Lading/Airbill No. ~~250986838-3~~ BW 6-24-92

Method of Shipment EMERY 250986848-2

Shipped to TMA

Possible Sample Hazards/Remarks N/A

Telephone (509)376-5045

Collection Date 6-23-92

Field Logbook No. EFL-1032

Offsite Property No. ~~W92-0-0399-35~~ BW 6-24 W92-0-0399-37

Sample Identification

B06ZQ7

3, 40ml, aG, WATER, CLP-VOA
3, 2L, aG, WATER, SEMI-VOA, PCB/PEST
~~1, 1L, P, WATER, ICP/AA METAL & Hg (HNO3) UNFILTERED~~
3, 1L, P, WATER, TDS, ~~BOD, DISOLVED OXYGEN,~~ ANIONS, TSS, ALK
1, 1L, P, WATER, AMMONIA, COD (H2SO4) KT 6/22/92
~~1, 250ml, aG, WATER, TOC(INCLUDES BICARBONATE/CARBONATE (H2SO4)~~
~~1, 250ml, Gs, WATER, TOX (H2SO4)~~
~~1, 1L, P, WATER, GROSS ALPHA/BETA, GAMMA SCAN (HNO3)~~

~~B06ZQ9~~

~~1, 1L, P, WATER, ICP/AA METAL & Hg (HNO3) (FILTERED)~~

~~B0~~ KT 6/22/92

~~3, 40ml aG, WATER, CLP-VOA~~

B06ZQ9 3, 40ml, aG, WATER, CLP-VOA *

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: B. WHITEN	Received by: Refrig	Date/Time: 6-23-92 1300
Relinquished by:	Received by: B. WHITEN	Date/Time: 6-24-92 0730
Relinquished by: B. WHITEN	Received by: Kermit Blum	Date/Time: 6-25-92 1130
Relinquished by: Kermit Blum 6-25-92	Received by: Carole Harris	Date/Time: 6/26/92 9a

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * One vial of B06ZQ9 had air bubbles when received @ TMA/NORCAL. KB

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

9613473.1419

000003

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST Task #92-128

PART I: FIELD SECTION

.or _____ Date Sampled 6-23-92 Time 1032 hours

mpany Contact PH Butcher Telephone (509) 376-5045

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
D6ZQ7	3, Gs, 40ml	W	CLP- VOA
	3, aG, 2L	W	Semi-VOA, Pest/PCB
	~~1, P, 1L~~	~~W~~	~~ICP/AA Metals + Hg (HNO3) Unfiltered~~
	3, P, 1L	W	TDS, BOD, Dissolved Oxygen, Anions, TSS, ALK
	1, P 1L	W	Ammonia, COD (H_2SO_4)
	~~1, aG, 250ml~~	~~W~~	~~TOC (Includes Bicarbonate/Carbonate) (H_2SO_4~~
	~~1, Gs, 250ml~~	~~W~~	~~TOX (H_2SO_4)~~
	~~1, P, 1L~~	~~W~~	~~Gross Alpha/Beta, Gamma Scan (HNO_3)~~
~~B06ZQ8~~	~~1, P, 1L~~	~~W~~	~~ICP/AA Metals + Hg (HNO3) Filtered~~
B06ZQ9	3, AG 40ML	W	CLP- VOA (one vial blank)
			BOL #: 2509986848-2
			OPC #: W92-0-0399-37

ield Information** _____

pecial Handling and/or Storage _____

ossible Sample Hazards _____

PART II: LABORATORY SECTION

ed by Kermit Blum Title Sample Control Supervisor Date 6-25-92

nalysis Required _____

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI

PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): CAROLE HARRIS

LOG-IN-DATE : 6/26/92

RECEIVED BY (SIGNATURE): Carole Harris

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.: 7521034880
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: 6/26/92
12. Temp of ice chest 4.0 °C
13. Time Recieved: 9:00 AM

SAMPLE TRANSFER

Fraction:

Area #:

By:

On:

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
	B06ZQ7	AZ-06-080-01	
	B06ZQ9	AZ-06-080-02	

* Contact SMO and attach record of resolution

Reviewed By: _____ Logbook No.: _____

Date: _____ Logbook Page No.: _____

FORM DC-1

9613473.1421

000005

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 6/26/92 COMPANY NORCAL (WHC) OTHER ORD # 52103488

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 11/15/92

Instrument Calibration Factor 0.290 Instrument Calibration Factor 0.177

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		31.0			0				
Consistency		7,340	0.2833		5,050	0.1856			
Smears: LARGE RED		42.0			1.0			NONE	
SMALL BLUE		39.0			0			NONE	
REPORTED (WHC)		3 samples		each	< 50 pCi/gram				

Comments:

All OK ✓ Approved RSM

Not OK Date 6/26/92

Form: ARLI RA-01
Rev: 06

01/15/92

9613473.1422

000006

FEDERAL EXPRESS

QUESTIO CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 2521034880

2:2 2521034880

RECIPIENT'S COPY

Date 6 25-92

From (Your Name) Please Print: SAMPLE control

Your Phone Number (Very Important): 6107235-2633

Company: T M A /NORCAL

Department/Floor No.:

Street Address: 2030 WRIGHT AVE

City: RICHMOND State: CA ZIP Required: 94804

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

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

Company: TMA/ARP

Department/Floor:

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

City: MONROVIA State: CA ZIP Required: 91016

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

IF HOLD FOR PICK-UP, Print FEDEX Address Here: Street Address

City State ZIP Required

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

SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning): 11 ☑ YOUR PACKAGING; 16 ☐ FEDEX LETTER*; 12 ☐ FEDEX PAK*; 13 ☐ FEDEX BOX; 14 ☐ FEDEX TUBE

Standard Overnight (Delivery by next business afternoon): 51 ☐ YOUR PACKAGING; 56 ☐ FEDEX LETTER*; 52 ☐ FEDEX PAK*; 53 ☐ FEDEX BOX; 54 ☐ FEDEX TUBE

Economy Two-Day (Delivery by second business day†): 30 ☐ ECONOMY

Government Overnight (Available to authorized users only): 46 ☐ GOV'T LETTER; 41 ☐ GOV'T PACKAGE

Freight Service (for Extra Large or any package over 150 lbs.): 70 ☐ OVERNIGHT FREIGHT**; 80 ☐ TWO-DAY FREIGHT**

(Combined shipments required)

† Delivery commitment may be later in some areas

*Declared Value Limit $100.

**Call for delivery schedule.

DELIVERY AND SPECIAL HANDLING (Check services required)

1 ☐ HOLD FOR PICK-UP (Fee or Box req.)

2 ☑ DELIVER WEEKDAY

3 ☐ DELIVER SATURDAY (Extra charge) (Office business days only)

4 ☐ DANGEROUS GOODS (Extra charge)

5 ☐

6 ☐ DRY ICE lbs.

7 ☐ OTHER SPECIAL SERVICE

8 ☐

9 ☐ SATURDAY PICK-UP (Extra charge)

10 ☐

11 ☐

12 ☐ HOLIDAY DELIVERY (Extra charge)

PACKAGES	WEIGHT (in Pounds lbs)	YOUR DECLARED VALUE
Total	Total 2 59	Total

DIM SHIPMENT (Chargeable Weight) ☐ lbs.

L x W x H =

Received At: 1 ☐ Regular Stop 2 ☐ On-Call Stop 3 ☐ Drop Box 4 ☐ BSC 5 ☐ Station

Emp. No. Date

☐ Cash Received

☐ Return Shipment

☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold

Street Address

City State Zip

Received By

X

Date/Time Received FedEx Employee Number

Release Signature:

FedEx Emp. No. Date/Time

Federal Express Use

Base Charges

Declared Value Charge

Other 1

Other 2

Total Charges

REVISION DATE 6/91 PART #137204 FXEM 4/ FORMAT #099

099

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GENERAL CHEMISTRY RESULTS

CASE NO. 06-080

Water Sample #:

B06ZQ7

CASE NARRATIVE

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

Ernesto Vazquez

Ernesto Vazquez

9613473.1424

000008

TMA Inc. REPORT Work Order # A2-06-080

Received: 06/25/92 08/17/92 15:33:49

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 Vazquez
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: 200AAMS
TAKEN: By Westinghouse Staff
TRANS: Federal Express
TYPE: Liquid
P.O. #: N2-06-150-SU-AR
INVOICE: under separate cover

SAMPLE IDENTIFICATION

01	B06Z97
01	B06Z97 MS
01	B06Z97 MSD
01	B06Z97
01	B06Z97 MS
01	B06Z97 Duplicate
01	B06Z97
01	B06Z97 MS
01	B06Z97 Duplicate
02	B06Z99
02	B06Z99 MS
02	B06Z99 MSD
03	Wet Chemistry Blank

TEST CODES and NAMES used on this workorder

BNCLPW	CLP Semivol. Water
PECLPL	CLP Pesticides Liq.-WH019
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
WNO2 L	Nitrite (Liquids)
WNO3 L	Nitrate (Water)
WPO4 L	Phosphate in Liquids
WSO4 L	Sulfate (in Waters)
W ALK	Alkalinity - WH131
W COD	COD Water - WH132
W TDS	Dissolved Solids WH128
W TSS	Suspended Solids WH129

9613473.1425

000010

TMA Inc. REPORT Work Order # A2-06-080

Received: 06/25/92

Results by Sample

SAMPLE ID B06Z07 FRACTION 01E TEST CODE WCCLPL NAME Anions & Wet Chem. - VW043

Date & Time Collected 06/23/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300	0.2	mg/L	0.1
Chloride	300	7.9	mg/L	0.2
Nitrite	300	<0.1	mg/L	0.1
Nitrate	300	1.2	mg/L	0.2
Sulfate	300	15	mg/L	1
Phosphate	300	<0.4	mg/L	0.4
Tot. Dissolved Solids	160.1	233	mg/L	NA
Alkalinity	310.1	154	mg/L	2
TSS	160.2	<5	mg/L	5

FORM I

TMA Inc. REPORT Work Order # A2-06-080

Received: 06/25/92

Results by Sample

SAMPLE ID B06Z07 FRACTION 01W TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 06/23/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia	350.3	<0.05	mg/L	0.05
COD	410	<30	mg/L	30

FORM I

9613473.1422

TMA
Thermo Analytical Inc.

300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200
FAX (617) 890-3883

RECORD COPY

AUG 1992
RECEIVED
OSM DMO

July 23, 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 June 26, 1992 from Westinghouse/Hanford Company. The samples were analyzed for the USEPA CLP Target Analyte List metals. The analysis was performed under Skinner and Sherman work order S206249.

Methodology
The samples were prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work 7/88 (CLP SOW788).

Discussion
All quality control requirements were met for the sample with the following exceptions:

The matrix spike recovery for selenium 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

2/28/96 M.H.

9613473.1428

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B06Z08

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

Lab Code: SKINER Case No.: N2-06-150SAS No.: SDG No.: B06Z08

Matrix (soil/water): WATER Lab Sample ID: 06249-01S

Level (low/med): LOW Date Received: 06/26/92

% 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	23.90	U		P
7440-36-0	Antimony	16.30	U		P
7440-38-2	Arsenic	5.00	B	W	F
7440-39-3	Barium	13.10	B		P
7440-41-7	Beryllium	0.70	U		P
7440-43-9	Cadmium	1.50	U		P
7440-70-2	Calcium	47200.00			P
7440-47-3	Chromium	4.90	U		P
7440-48-4	Cobalt	3.50	U		P
7440-50-8	Copper	3.80	U		P
7439-89-6	Iron	17.10	B		P
7439-92-1	Lead	2.60	B	W	F
7439-95-4	Magnesium	10700.00			P
7439-96-5	Manganese	4.40	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	3.90	U		P
7440-09-7	Potassium	3560.00	B		P
7782-49-2	Selenium	3.10	U	WN	F
7440-22-4	Silver	4.80	U		P
7440-23-5	Sodium	5680.00			P
7440-28-0	Thallium	0.90	U		F
7440-62-2	Vanadium	6.10	B		P
7440-66-6	Zinc	2.90	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN Rev.6/89

961543.1429

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE TRACKING NUMBER 2521034725

21 2PM 2521034725

1 Date 6-25-92

RECIPIENT'S COPY

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

2 To (Recipient's Name) Please Print: SAMPLE CONTROL
Recipient's Phone Number (Very Important): (617) 890-7200
Company: TMA/SKINNER & SHERMAN
Department/Floor No.:
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 300 SECOND AVENUE
City: WALTHAM State: MA ZIP Required: 02254

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)
2320-6406

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

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

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 ☑ YOUR PACKAGING
16 ☐ FEDEX LETTER *
12 ☐ FEDEX PAK *
13 ☐ FEDEX BOX
14 ☐ FEDEX TUBE

Standard Overnight (Delivery by next business afternoon†)
51 ☐ YOUR PACKAGING
56 ☐ FEDEX LETTER *
52 ☐ FEDEX PAK *
53 ☐ FEDEX BOX
54 ☐ FEDEX TUBE

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

Government Overnight (Restricted to authorized users only)
46 ☐ GOVT LETTER
41 ☐ GOVT PACKAGE

Freight Service (for Extra Large or any package over 150 lbs.) (Continual reservation required)
70 ☐ OVERNIGHT FREIGHT **
80 ☐ TWO-DAY FREIGHT **

† Delivery commitment may be later in some areas.
*Declared Value Limit $100.
**Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

1 ☐ HOLD FOR PICK-UP (Fill in Box H)
2 ☑ DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) ☐
4 ☐ DANGEROUS GOODS (Extra charge)
5 ☐
6 ☐ DRY ICE Lbs
7 ☐ OTHER SPECIAL SERVICE
8 ☐
9 ☐ SATURDAY PICK-UP (Extra charge)
10 ☐
11 ☐
12 ☐ HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES | WEIGHT in Pounds Only | YOUR DECLARED VALUE
Total | Total | Total

DIM SHIPMENT (Chargeable Weight)
☐ _____ lbs.
L x W x H =

Received At
1 ☑ Regular Stop 3 ☐ Drop Box
2 ☐ On-Call Stop 4 ☐ B.S.C. 5 ☐ Station

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

7 Release Signature:
FedEx Emp. No. Date/Time

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

REVISION DATE 6/91
PART #137204 FXEM 4/92
FORMAT #099
099

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099

9613473.1430

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

WORKORDER S2062A CLIENT Hanford Nor No. SAMPLES:

PROTCL CLP **TURNARND** 33 Day 1

COOLER TEMP: 5 oC, or NA (Soil) (Water) (Specify Other)

CUSTODIAN B. Prouty SDG/BATCH

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

SHIPER & # Fed Ex PO/CONTRACT# N2 06150

TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT

CHAIN OF CUSTODY: PRESENT/ABSENT/NA, # COMMENTS:

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 6/26/92

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

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
1	B06Z08	Water	6/26/92	1.98	MS,D TM	
2						
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25						
26						
27						

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

Samples have detectable amounts of Radioactive Material:YES **NO** ✓ 100

SUBCONTRACT: YES/NO TO: DATE:

REVIEWED complete 6/26/92 BP

* EPA/CLP required Rev 1.6 PAGE: 000048

9613473.1431

Westinghouse Hanford Company	CHAIN OF CUSTODY	S&S

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 200AAMS

Collection Date 6-23-92

Ice Chest No. SML-143

Field Logbook No. EFL-1032

Bill of Lading/Airbill No. ~~250986838-3~~ BW 6-24-92

Offsite Property No. ~~W92-0-0399-35~~ W92-0-0399-37

Method of Shipment EMERY 250986848-2

Shipped to TMA

Possible Sample Hazards/Remarks N/A

Sample Identification

B06ZQ7

~~3, 40ml, aG, WATER, CLP-VOA~~

~~3, 2L, aG, WATER, SEMI VOA, PCB/PEST~~

1, 1L, P, WATER, ICP/AA-METAL & Hg (HNO3) UNFILTERED

~~3, 1L, P, WATER, TDS, BOD, DISOLVED OXYGEN, ANIONS, TSS, ALK~~

~~1, 1L, P, WATER, AMMONIA, COD (H2SO4)~~ KT 6/22/92

~~1, 250ml, aG, WATER, TOC(INCLUDES BICARBONATE/CARBONATE (H2SO4)~~

~~1, 250ml, G3, WATER, TOX (H2SO4)~~

~~1, 1L, P, WATER, GROSS ALPHA/BETA, GAMMA SCAN (HNO3)~~

B06ZQ8

1, 1L, P, WATER, ICP/AA METAL & Hg (HNO3) (FILTERED)

~~B0~~ KT 6/22/92

~~3, 40ml aG, WATER, CLP-VOA~~

~~B06ZQ9 3, 40ml, aG, WATER, CLP-VOA~~ *

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: B. WHITTEN	Received by: Refrig	Date/Time: 6-23-92 1300
Relinquished by:	Received by: B. WHITTEN	Date/Time: 6-24-92 0:730
Relinquished by: B. WHITTEN	Received by: Kermit Blum	Date/Time: 6-25-92 1130
Relinquished by: 6-25-92 Kermit Blum	Received by: Barbara Prado	Date/Time: 6/26/92 10:00

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * One vial of B06ZQ9 had air bubbles when received @ TMA / NORCAL. KB

101

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

9613473.1432

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST Task #92-128

PART I: FIELD SECTION

.or _____ Date Sampled 6-23-92 Time 1032 hours

Company Contact PH Butcher Telephone (509) 376-5045

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B06ZQ7	~~3, G, 40ml~~	~~W~~	~~CLP VOA~~
	~~3, aG, 2L~~	~~W~~	~~Semi-VOA, Pest/PCB~~
	1, P, 1L	W	ICP/AA Metals & Hg (HNO_3) Unfiltered
	~~3, P, 1L~~	~~W~~	~~TDS, COD, Dissolved Oxygen, Anions, TSS, PCB~~
	~~1, P, 1L~~	~~W~~	~~Ammonia, COD (H_2SO_4)~~
	~~1, aG, 250ml~~	~~W~~	~~TOC (Includes Bicarbonate/Carbonate) (H_2SO_4)~~
	~~1, G, 250ml~~	~~W~~	~~TOX (H_2SO_4)~~
	~~1, P, 1L~~	~~W~~	~~Gross Alpha/Beta, Gamma Scan (HNO_3)~~
B06ZQ8	1, P, 1L	W	ICP/AA Metals & Hg (HNO_3) Filtered
~~B06ZQ9~~	~~3, RG 40ml~~	~~W~~	~~CLP VOA~~ (one vial broken)
			BOL #: 2509868948-2
			OPC #: W92-0-0399-37

Field Information** _____

Special Handling and/or Storage _____

Possible Sample Hazards _____

102

PART II: LABORATORY SECTION

103

I ed by Kermit Blum Title Sample Control Supervisor Date 6-25-92

Analysis Required _____

9613473.1433

TMA
Thermo Analytical Inc.

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

RECORD COPY

AUG 1992
RECEIVED
OSM DMO

July 28, 1992

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

Quality Control Narrative

Scope

One (1) water sample was submitted to TMA/Skinner & Sherman Laboratories, Inc. on June 26, 1992 from Westinghouse/Hanford Company. The samples were analyzed for the USEPA CLP Target Analyte List metals. The analysis was performed under Skinner and Sherman work order S206250.

Methodology

The samples were prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work 7/88 (CLP SOW788).

Discussion

All quality control requirements were met for the sample with the following exceptions:

The matrix spike recovery for selenium 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

2/28/96 M.H.

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B06ZQ7

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

Lab Code: SKINER Case No.: N2-06-150SAS No.: SDG No.: B06ZQ7

Matrix (soil/water): WATER Lab Sample ID: 06250-01S

Level (low/med): LOW Date Received: 06/26/92

% 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	17.30	U		P
7440-36-0	Antimony	16.50	U		P
7440-38-2	Arsenic	5.70	B		F
7440-39-3	Barium	8.20	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.40	U		P
7440-70-2	Calcium	48800.00			P
7440-47-3	Chromium	3.70	U		P
7440-48-4	Cobalt	2.30	U		P
7440-50-8	Copper	2.40	U		P
7439-89-6	Iron	35.50	B		P
7439-92-1	Lead	2.50	B		F
7439-95-4	Magnesium	11000.00			P
7439-96-5	Manganese	1.30	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	6.00	U		P
7440-09-7	Potassium	3700.00	B		P
7782-49-2	Selenium	15.50	U	WN	F
7440-22-4	Silver	2.30	U		P
7440-23-5	Sodium	5760.00			P
7440-28-0	Thallium	0.90	U		F
7440-62-2	Vanadium	3.30	U		P
7440-66-6	Zinc	10.10	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TMA/Skinner & Sherman Labs SAMPLE LOG-IN

WORKORDER S206050 CLIENT Hanford Nor No. SAMPLES:

PROTCL comm TURNARND 33 Day _____ 1 _____

COOLER TEMP: 5 oC, or NA (Soil) (Water) (Specify Other)

CUSTODIAN B. Prouk SDG/BATCH _____

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

SHIPER & # Fed Ex PO/CONTRACT# N206150

TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT _____

CHAIN OF CUSTODY: PRESENT/ABSENT/NA, # _____ COMMENTS: _____

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 6/26/92

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

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
1	B06Z07	water	6/26/92	2.00	U.S Tm	
2						
3						
4						
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25	112					
26						
27						

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

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

SUBCONTRACT: YES/NO, TO: _____ DATE: _____

REVIEWED _____ complete 6/24/92 BP

* PH/COD

Page 1 of

PAGE: 000049

Westinghouse Hanford Company	CHAIN OF CUSTODY	S&S

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 200AAMS

Collection Date 6-23-92

Ice Chest No. SML-143

Field Logbook No. EFL-1032

Bill of Lading/Airbill No. ~~250986838-3~~ BCW 6-24-92

Offsite Property No. ~~W92-0-0399-35~~ W92-0-0399-37

Method of Shipment EMERY 250986848-2

Shipped to TMA

Possible Sample Hazards/Remarks N/A

Sample Identification

B06ZQ7

~~3, 40ml, aG, WATER, CLP-VOA~~

~~3, 2L, aG, WATER, SEMI VOA, PCB/PEST~~

1, 1L, P, WATER, ICP/AA-METAL & Hg (HNO3) UNFILTERED

~~3, 1L, P, WATER, TDS, BOD, DISOLVED OXYGEN, ANIONS, TSS, ALK~~

~~1, 1L, P, WATER, AMMONIA, COD (H2SO4)~~ KT 6/22/92

~~1, 250ml, aG, WATER, TOC(INCLUDES BICARBONATE/CARBONATE (H2SO4)~~

~~1, 250ml, G3, WATER, TOX (H2SO4)~~

~~1, 1L, P, WATER, GROSS ALPHA/BETA, GAMMA SCAN (HNO3)~~

B06ZQ8

1, 1L, P, WATER, ICP/AA METAL & Hg (HNO3) (FILTERED)

~~B0~~ KT 6/22/92

~~3, 40ml aG, WATER, CLP-VOA~~

~~B06ZQ9 3, 40ml, aG, WATER, CLP-VOA~~ *

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: B. WHITTEN	Received by: Refrig	Date/Time: 6-23-92 1300
Relinquished by:	Received by: B. WHITTEN	Date/Time: 6-24-92 0:730
Relinquished by: B. WHITTEN	Received by: Kermit Blum	Date/Time: 6-25-92 1130
Relinquished by: Kermit Blum 6-25-92	Received by: Barbara Pirolo	Date/Time: 6/26/92 10:00

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * One vial of B06ZQ9 had air bubbles when received @ TMA / NORCAL. KB

113

101

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

9613475.1437

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST Task #92-128

PART I: FIELD SECTION

.or _____ Date Sampled 6-23-92 Time 1032 hours

mpany Contact PH Butcher Telephone (509) 376-5045

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
06ZQ7	~~3, G3, 40ml~~	~~W~~	~~CLP VOA~~
	~~3, aG, 2L~~	~~W~~	~~Semi-VOA, Pest/PCB~~
	1, P, 1L	W	ICP/AA Metals & Hg (HNO_3) Unfiltered
	~~3, P, 1L~~	~~W~~	~~TDS, BOD, Dissolved Oxygen, Anions, TSS, PCB~~
	~~1, P, 1L~~	~~W~~	~~Ammonia, COD (H_2SO_4)~~
	~~1, aG, 250ml~~	~~W~~	~~TOC (Includes Bicarbonate/Carbonate) (H_2SO~~
	~~1, G3, 250ml~~	~~W~~	~~TOX (H_2SO_4)~~
	~~1, P, 1L~~	~~W~~	~~Gross Alpha/Beta, Gamma Scan (HNO_3)~~
06ZQ8	1, P, 1L	W	ICP/AA Metals & Hg (HNO_3) Filtered
~~06ZQ9~~	~~3, AG 40ML~~	~~W~~	~~CLP VOA~~ (one vial labeled)
			BOL #: 2509866848-2
			OPC #: W92-0-0399-37

ld Information** _____

ecial Handling and/or Storage _____

ssible Sample Hazards _____

114 11.1

PART II: LABORATORY SECTION

ed by Kermit Blum Title Sample Control Supervisor Date 6-25-92 102

alysis Required _____

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

9613473.1438

N206159-01

TMA NORCAL

REPORTING GROUP 7054

DATA SHEET

B06ZQ7

SDG	7054	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N206159-01	Client sample id	B06ZQ7
Dept sample id	7054-001	Matrix	WATER
Received	06/25/92	Collected	06/23/92
		Chain of custody id	EFL-1032

PARAMETER	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	-0.28	2.0	2.8	3.0	U	80A
Gross Beta	Beta	80	3.6	1.8	4.0	B	80B
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		890		U	GAM
Iron 59		U		240		U	GAM
Chromium 51	14392-02-0	U		1100		U	GAM
Cobalt 60	10198-40-0	U		60		U	GAM
Zinc 65	17982-39-3	U		120		U	GAM
Ruthenium 106	13967-48-1	U		480		U	GAM
Cesium 134	17967-70-9	U		55		U	GAM
Cesium 137	10045-97-3	U		50		U	GAM
Europium 152	14683-23-9	U		74		U	GAM
Europium 154	15585-10-1	U		52		U	GAM
Radium 226	13982-67-7	U		99		U	GAM
Thorium 228	14274-82-9	U		69		U	GAM
Thorium 232	7440-29-1	U		190		U	GAM

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.15
Report date	08/26/92

SDG 7054	Client Westinghouse Hanford
Contact Dinkar P. Kharkar	Contract MBH-SVV-069262

CASE NARRATIVE

1.0 GENERAL

Water sample from Location 200 AAMS (TMA/Norcal Group 7054) are reported herein. TMA/Norcal Group 7054 is comprised of the one sample listed on the Chain-of-Custody documents and is identified as Sample 1.

1.1 CHAINS-OF-CUSTODY

This report includes data from the sample delivered under Chain-of-Custody documents Field Logbook No. EFL-1032.

1.2 SAMPLE VOLUME

A 1 L plastic container was received for the analyses.

1.3 MISSING SAMPLES

The sample was accounted for and was not damaged.

1.4 HOLDING TIMES

The collection was made 6/23/92 and the 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 7054-2, 3, and 4.

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

SDG 7054 Contact Dinkar P. Kharkar	Client Westinghouse Hanford Contract MBH-SVV-069262

CASE NARRATIVE

2.1 LABORATORY CONTROL SAMPLES

The recoveries of all analytes are good and pass at the 3 σ control level.

2.2 BLANKS

MDA's for gross alpha is 3.4 pCi/L, which is above the RDL requirement of 3.0 pCi/L. The MDA's for the other analyses are within RDL requirements.

2.3 REPLICATES

Results were satisfactory for the replicate analyses. All MDA's are within the average MDA's for the nuclides.

3.0 ANALYTICAL NOTES

3.1 Gross Alpha Analyses: The average MDA for four analyses is 2.7 ± 1.5 pCi/L. The gross alpha concentration is within average MDA. No positive gross alpha is found in the sample.

3.2 Gross Beta Analyses: The average MDA for four analyses is 1.9 ± 0.44 pCi/L. Positive gross beta concentration is found in the sample.

3.3 Gamma Scan Analyses: Gamma scan analysis did not find positive concentration of gamma nuclides.

9613473.1441

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 200AAMS

Collection Date 6-23-92

Ice Chest No. SML-143

Field Logbook No. EFL-1032

Bill of Lading/Airbill No. ~~2509866838-3~~ BW 6-24-92

Offsite Property No. ~~W92-0-0399-35~~ W92-0-0399-37

Method of Shipment EMERY 2509866848-2

Shipped to TMA

Possible Sample Hazards/Remarks N/A

Sample Identification

B06ZQ7
- 3, 40ml, aG, WATER, CLP-VOA
- 3, 2L, aG, WATER, SEMI-VOA, PCB/PEST
- 1, 1L, P, WATER, ICP/AA-METAL & Hg (HNO3) UNFILTERED
- 3, 1L, P, WATER, TDS, ~~BOD, DISOLVED OXYGEN~~, ANIONS, TSS, ALK
- 1, 1L, P, WATER, AMMONIA, COD (H2SO4) KT 6/22/92
- 1, 250ml, aG, WATER, TOC(INCLUDES BICARBONATE/CARBONATE (H2SO4)
- 1, 250ml, Gs, WATER, TOX (H2SO4)
- 1, 1L, P, WATER, GROSS ALPHA/BETA, GAMMA SCAN (HNO3)

B06ZQ8
- 1, 1L, P, WATER, ICP/AA METAL & Hg (HNO3) (FILTERED)

~~B0~~ KT 6/22/92
- ~~3, 40ml aG, WATER, CLP-VOA~~

B06ZQ9 3, 40ml, aG, WATER, CLP-VOA *

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: B. WHITTEN	Received by: Refrig	Date/Time: 6-23-92 1300
Relinquished by:	Received by: B. WHITTEN	Date/Time: 6-24-92 0730
Relinquished by: B. WHITTEN	Received by: Kermit Blum	Date/Time: 6-25-92 1130
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * One vial of B06ZQ9 had air bubbles when received @ TMA / NORCAL. KB

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

9613473.1442

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST Task #92-128

PART I: FIELD SECTION

(.or _____ Date Sampled 6-23-92 Time 1032 hours

Company Contact PH Butcher Telephone (509) 376-5045

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B06ZQ7	3, Gs, 40ml	W	CLP-VOA
	3, aG, 2L	W	Semi-VOA, Pest/PCB
	1, P, 1L	W	ICP/AA Metals & Hg (HNO3) Unfiltered
	3, P, 1L	W	TDS, BOD, Dissolved Oxygen, Anions, TSS, ALK
	1, P 1L	W	Ammonia, COD (H2SO4)
	1, aG, 250ml	W	TOC (Includes Bicarbonate/Carbonate) (H2SO.
	1, Gs, 250ml	W	TOX (H2SO4)
	1, P, 1L	W	Gross Alpha/Beta, Gamma Scan (HNO3)
B06ZQ8	1, P, 1L	W	ICP/AA Metals & Hg (HNO3) Filtered
B06ZQ9	3, AG 40ML	W	CLP-VOA (one vial broken)
			BOL #: 2509860848-2
			OPC #: W92-0-0399-37

Field Information** _____

Special Handling and/or Storage _____

Possible Sample Hazards _____

PART II: LABORATORY SECTION

ed by Kermit Blum Title Sample Control Supervisor Date 6-25-92

Analysis Required _____

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