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TMA

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WESTINGHOUSE HANFORD COMPANY

SEP 1993
RECEIVED
SDLA

Results of Analyses For:

GENERAL CHEMISTRY & ORGANICS
Case No. 07-074
(TMA/ARLI Work Order # A3-07-074)

METALS & NITRATE/NITRITE
Case No. N3-07-117
(TMA/Skinner & Sherman W.O. # S3-07-273, S3-07-274 & S3-07-275)

TOX & TOC
Case No. N3-07-117
(TMA/ERG W.O. E3-07-141)

DEC 1996
RECEIVED
EDMC

September 17, 1993

TMA Master Work Order # N3-07-117

i 5/16/96 M.H.

9713508.1283

~~PAGE 1~~ TMA/Norcal CHAIN OF CUSTODY ORD # N3-07-117 000002

RCVD: 07/27/93 DUE: 08/26/93 07/27/93 12:48:11 KEEP: 08/26/94 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY
01A-W	B08Y91	UNFILTERED	ARLI	WH018 WH019 WH020 WH043 WH114 WH121 WH122 WH128 WH131 WH132 WH140
02A-W	B08YC5	UNFILTERED	ARLI	WH018 WH019 WH020 WH043 WH114 WH121 WH122 WH128 WH131 WH132 WH140
03A-W	B08YD0	UNFILTERED	ARLI	WH018 WH019 WH020 WH043 WH114 WH121 WH122 WH128 WH131 WH132 WH140
04A-W	B08YD5	UNFILTERED	ARLI	WH018 WH019 WH020 WH043 WH114 WH121 WH122 WH128 WH131 WH132 WH140
04C-W	B08YD5 MS	UNFILTERED	ARLI	WH018 WH019 WH020 WH043 WH114 WH140
04D-W	B08YD5 MSD	UNFILTERED	ARLI	WH018 WH019 WH020
04E-W	B08YD5 DUP	UNFILTERED	ARLI	WH043 WH114 WH121 WH122 WH128 WH131 WH132 WH140
09A-W	B08Y93		ARLI	WH018
10A-W	B08YC7		ARLI	WH018
11A-W	B08YD2		ARLI	WH018
12A-W	B08YD7		ARLI	WH018

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
tyamamoto	7-27-93	ARLI	7-27-93	C Ferris	7/28/93

000002A

9713508.1284

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-FR-3

Ice Chest No. GWS005

Bill of Lading/Airbill No. 2 521537337

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 7/24/93

Field Logbook No. EFL-1055

Offsite Property No. W93-0-0585-30

Sample Identification

BO 8Y91

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
✓ 1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

BO 8Y92

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

BO 8Y93

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

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

Relinquished By	Date	Time	Received By	Date	Time
~~[illegible]~~ KD Lee KD Lee	7/24/93	1400	AJ Simpson AJ SIMPSON	7/26/93	0819
AJ Simpson AJ SIMPSON	7/26/93	0819	Elby K. Yamamoto	7/27/93	11:10

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relinq to fig. # 28 by K.D. Lee 7/24/93 1400

A-6000-407 (12/92) WEF061

000002B

9713508.1285

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/24/93 Time 0845 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8Y91	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO 8Y92	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO 8Y93	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2521531337 OPC #: W93-0-0585-30

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Elby J. Yamamoto Title Sample Control Tech. I Date 7-27-93

Analysis Required

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

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

A-6000-406(05/90)

000002C

9713508.1286

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-FR-3

Ice Chest No. 6WS030

Bill of Lading/Airbill No. 2521531337

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 7/24/93

Field Logbook No. EPC-1055

Offsite Property No. W93-0-0585-30

Sample Identification

BO 8YC5

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

BO 8YC6

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

BO 8YC7

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

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
~~Rec by~~ Relin K.D. Lee	7/24/93	1700	AJ Simpson AJ SIMPSON	7/26/93	0823
AJ Simpson AJ SIMPSON	7/26/93	0823	Rec by K. Yamamoto	7/27/93	11:10

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relng. to Sig. # 2C by K.D. Lee 7/24/93 1400

A-6000-407 (12/92) WEF061

000002D

9213508.1287

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/24/93 Time 0845 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8YC5	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO 8YC6	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO 8YC7	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2521537337 OPC #: 0W93-0-0585-30

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Ellen H. Yamamoto Title Sample Control Tech II Date 7-27-93

Analysis Required

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

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

A-6000-406(05/90)

9713508.1288

000002E

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-FR-3

Ice Chest No. GWS026

Bill of Lading/Airbill No. 2521537337

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 7/23/93

Field Logbook No. EFL-1055

Offsite Property No. W93-0-0585-29

Sample Identification

BO 8YD0

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

BO 8YD1

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

BO 8YD2

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

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

Relinquished By	Date	Time	Received By	Date	Time
K. Trapp/K. Trapp	7/23/93	1145	AJ Simpson AJ SIMPSON	7/26/93	0829
AJ Simpson AJ SIMPSON	7/26/93	0829	Elby H. Yamamoto	7/27/93	11:10

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: Set in Frig 3 on 7/23/93 at 1223

A-6000-407 (12/92) WEF061

9713508.1289

000002F

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/23/93 Time 1020 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8YD0	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO 8YD1	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO 8YD2	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2521537337 OPC #: NG-0-0585-29

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by ~~[illegible]~~ Elby G. Yamanaka Title Sample Control Tech II Date 7-27-93

Analysis Required

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

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

A-6000-406(05/90)

000002G

9713508.1290

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/23/93

Ice Chest No. GWS028

Field Logbook No. EFL-1055

Bill of Lading/Airbill No. 2521537337

Offsite Property No. W93- 0 -0585-29

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Sample Identification

BO 8YD5

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

BO 8YD6

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

BO 8YD7

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

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

Relinquished By	Date	Time	Received By	Date	Time
KD Lee KD Lee	7/23/93	1325	AJ Simpson AJ SIMPSON	7/26/93	0831
AJ Simpson AJ SIMPSON	7/26/93	0832	Eby K. Yamamoto	7/27/93	11:10

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relinq. to frig. #2C by K.D. Lee 7/23/93 1325

A-6000-407 (12/92) WEF061

000002H

9713508.1291

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/23/93 Time 1018 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8YD5	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO 8YD6	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO 8YD7	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 052153733 7 OPC #: W93-0-0585-29

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Eby H. Yamamoto Title Sample Control Tech. II Date 7-27-93

Analysis Required

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

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

A-6000-406(05/90)

0000021

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 1/24/93

Ice Chest No. 6005005

Field Logbook No. EFL-1058

Bill of Lading/Airbill No. 2521537337

Offsite Property No. W93-0-0586-30

Method of Shipment EMERY

Shipped to ~~WESTON~~ TMA PCW 7/26/93

Possible Sample Hazards/Remarks

Sample Identification

BO 8Y94

1, 125ml, aGs, WATER; IOC(H2SO4 to pH<2.0)
1, 500ml, aGs, WATER; TOX(HNO3 to pH<2.0)

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
Thang A. Le K.D. Lee	7/24/93	1400	AJ Simpson AJ SIMPSON	7/26/93	0821
AJ Simpson AJ SIMPSON	7/26/93	0821	Ellen J. Yamamoto	7/27/93	11:10

Final Sample Disposition

Disposal Method: Disposed by: Date/Time:

Comments: relinq. to Fig. # 28 by K.D. Lee 1400

A-6000-407 (12/92) WFF061

000002 J

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, L. Walker Date Sampled 7/24/93 Time 0845 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B0 8Y94	1: 125ml; aGs	WATER	TOC (H2SO4 to pH<2.0)
	1; 250ml; aGs	WATER	TOX (HNO3 to pH<2.0)
			OPC: # W93-0-0585-30
			BOL: # 2245-57337
			TASK#: 93-174

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Elbey L. Yamamoto Title Sample Control Tech. II Date 7-27-93

Analysis Required

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

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

A-6000-406(05/90)

000002K

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/24/93

Ice Chest No. 6005080

Field Logbook No. PFF-1055

Bill of Lading/Airbill No. 2521537357

Offsite Property No. W93-0-0585 30

Method of Shipment EMERY

Shipped to ~~WESTON~~ TMA RC 7/26/93

Possible Sample Hazards/Remarks

Sample Identification

BD 8YC8

1, 125ml, aGs, WATER; TOC(H2SO4 to pH<2.0)
1, 500ml, aGs, WATER; TOX(HNO3 to pH<2.0)

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
K.D Lee K.D Lee	7/24/93	1900	AJ Simpson AJ SIMPSON	7/26/93	0824
AJ Simpson AJ SIMPSON	7/26/93	0824	Elby R. Yamamoto	7/27/93	11:10

Final Sample Disposition

Disposal Method: Disposed by: Date/Time:

Comments: relinq to Fig 2C by K.D Lee 7/24/93 1400

A-6000-407 (12/92) WEF061

000002L

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, L. Walker Date Sampled 7/24/93 Time 0845 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8YC8	1; 125ml; aGs	WATER	TOC (H2SO4 to pH<2.0)
	1; 250ml; aGs	WATER	TOX (HNO3 to pH<2.0)
			OPC: # W93-D-0555-30
			BOL: # 2521537397
			TASK#: 93-174

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Elby K. Yamamoto Title Sample Entrel TLAB II Date 7-27-93

Analysis Required

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

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

A-6000 406(05/90)

000002M

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: KD LEE/GG HAMILTON

Company Contact: PH BUTCHER

Telephone: (509) 376-5045

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 7/23/93

Ice Chest No.: GWS 026

Field Logbook No.: EFL

Bill of Lading/Airbill No.: 2521537337

Offsite Property No.: W93-0-0585-29

Method of Shipment: EMERY

Shipped to: ~~WESTON~~ TMA PCC 7/26/93

Possible Sample Hazards/Remarks:

Sample Identification

BO8Y03

1, 125ml, aGs, WATER; TOC(H2SO4 to pH<2.0)
1, 500ml, aGs, WATER; TOX(HNO3 to pH<2.0)

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

Relinquished By	Date	Time	Received By	Date	Time
K. Trapp / K Trapp	7/23/93	1145	K.J. Simpson / KJ SIMPSON	7/26/93	0530
KJ Simpson / AJ SIMPSON	7/26/93	0530	Eby K. Yamazaki	7/27/93	11:10

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: Set in Frig 3 on 7/23/93 at 1223

A-6000-407 (12/92) WEF061

006002N

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, L. Walker Date Sampled 7/23/93 Time 1020 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8YDJ	1; 125ml; aGs	WATER	TOC (H2SO4 to pH<2.0)
	1; 250ml; aGs	WATER	TOX (HNO3 to pH<2.0)
			OPC: # W93-0-0585-29
			BOL: # 252153 7337
			TASK#: 93-174

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Elly K. Yamamoto Title Sample Control Tech. II Date 7-27-93

Analysis Required

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

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

A-6000-406(05/90)

0000020

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/23/93

Ice Chest No. GN5028

Field Logbook No. EFL-1055

Bill of Lading/Airbill No. 2521537537

Offsite Property No. W93-0-0585-29

Method of Shipment EMERY

Shipped to ~~WESTON~~ TMA Dec 7/26/93

Possible Sample Hazards/Remarks

Sample Identification

BO 8YD8

1, 125ml, aGs, WATER; TOC(H2SO4 to pH<2.0)
1, 500ml, aGs, WATER; TOX(HNO3 to pH<2.0)

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
Kirby D Lee K.D. Lee	7/23/93	1325	GG Simpson AJ SIMPSON	7/26/93	0833
GG Simpson AJ SIMPSON	7/26/93	0833	Elby L. Yamamoto	7/27/93	11:10

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: Relinq. to frig. # 2C by K.D. Lee 7/23/93 1325

A-6000-407 (12/92) WEF061

000002P

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, L. Walker Date Sampled 7/23/93 Time 1015 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B0 9YD8	1; 125ml; aGs	WATER	TOC (H2SO4 to pH<2.0)
	1; 250ml; aGs	WATER	TOX (HNO3 to pH<2.0)
			OPC: # W93-0-0585-29
			BOL: # 252 153 7377
			TASK#: 93-174

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Elby E. Yancovoff Title Sample Control Tech II Date 7-27-93

Analysis Required

*Indicate whether sample is soil, sludge, water, etc.
**Use back of page for additional information relative to sample location.

A-6000-406(05/90)

9713508.1300

SAMPLE LOG-IN SHEET

000003

LAB NAME : TMA/ARLI

PAGE : _____ OF _____

RECEIVED BY (PRINT NAME): PHILLIP HOOD

LOG-IN-DATE : 7/28/95

RECEIVED BY (SIGNATURE): PHood

ICE CHEST NO. GW 5030

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.: 7290260320
7. Sample Tags — Present / Absent*
8. Sample Tag 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: 7/28/93
12. Temp of ice chest 5 °C
13. Time Recieved: 9.30

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B08YC5	A307074	
	B08YD0	A307074	
	B08Y91	A307074	
	B08YD5	A307074	
	B08Y93	A307074	
	B08YD2	A307074	
	B08YD7	A307074	

SAMPLE TRANSFER

Fraction: _____

Area #: _____

By: _____

On: _____

* Contact SMO and attach record of resolution

Reviewed By: _____ Logbook No.: _____

Date: _____ Logbook Page No.: _____

FORM DC-1

9HCE/LOGIN.TBL

9713508.1301

SAMPLE LOG-IN SHEET

000004

LAB NAME : TMA/ARLI

PAGE : _____ OF _____

RECEIVED BY (PRINT NAME): Phillip HOOD

LOG-IN-DATE : 7/28/93

RECEIVED BY (SIGNATURE): pHood

ICE CHEST NO. GWS026.

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.: 7290260320
7. Sample Tags — Present / Absent*
8. Sample Tag 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: 7/28/93
12. Temp of ice chest 4° °C
13. Time Recieved: 9:30

SAMPLE TRANSFER

Fraction: _____

Area #: _____

By: _____

On: _____

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B08YCS	A307074	
	B08Y91	A307074	
	B08Y00	A307074	
	B08YDS.	A307074	

* Contact SMO and attach record of resolution

Reviewed By: _____ Logbook No.: _____

Date: _____ Logbook Page No.: _____

FORM DC-1

DOCS/LOGIN.TBL

9713508.1302

000005

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 7/28/93 COMPANY TMA/NORCAL OTHER ORD # 7290260320

Surveyor's Name MARK S. McCRAY

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

Serial No. 710289 / 02619 Serial No. 407726 / 02628

Calibration Date 4/26/93 Calibration Date 2/16/93

Instrument Calibration Factor 0.280 Instrument Calibration Factor 0.190

Sample	Location	HP-210 CPM	HP-210 Factor	HP-210 DPM	AC-3-7 CPM	AC-3-7 Factor	AC-3-7 DPM	Surface or Breathing?	Activity pCi/gm or pCi/L
Background		49.0			0				
Consistency		7,420	0.2864		5,060	0.1860			
Smear GWS028		38.0			3.0			None	
GWS030		42.0			3.0			None	
GWS026		95.0			1.0			None	
NOTE: INSTRUMENT USED: VICTOREEN MODEL 450 P	IONIC CHARGE	COUNT	= 7μR/h, 15		μR/h,	11μR/h.			
Reported (WHC)		33 samples each < 50 pCi/gram							

Comments

All OK ✓ Approved MSM

Not OK Date 7/28/93

000000

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7290260320

7290260320

RECIPIENT'S COPY

1 Date 7-27-93

From (Your Name) Please Print: Sample Control

Your Phone Number (Very Important): (310-235-2633)

Company

Department/Floor No.

Street Address

City

State

ZIP Required

2 To (Recipient's Name) Please Print: CArole Harris

Recipient's Phone Number (Very Important): (818) 357-3247

Company: TMA / Arli

Department/Floor No.

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

City: Monrovia

State: CA

ZIP Required: 91016

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2340-6406

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

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

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

* Economy Letter rate not available. Minimum charge: One pound economy rate.

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 Dangerous Goods Shipper's Declaration not required
  Dry Ice, 9, UN 1845 X kg. 904 III
- 7 [ ] OTHER SPECIAL SERVICE
- 8 [ ]
- 9 [ ] SATURDAY PICK-UP (Extra charge)
- [ ]
- 12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
3		
Total 3	Total 21	Total

DIM SHIPMENT (Chargeable Weight) [ ] lbs.

L x W x H

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

7 Release Signature:

Emp. No. Date

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

Street Address

City State Zip

Received By: X

Date/Time Received FedEx Employee Number

Federal Express Use

Base Charges

Declared Value Charge

Other 1

Other 2

Total Charges

REVISION DATE 11/92
PART #137204 FXEM 3/93
FORMAT #155

155

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971350B.1303

GENERAL CHEMISTRY RESULTS

CASE NO. 07-074

Water Sample #:

B08YC5	B08Y91
B08YD0	B08YD5

CASE NARRATIVE

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

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

Maureen Parrish

Maureen Parrish

9713508.1305

000008

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93 09/13/93 15:04:58

REPORT TO: Westinghouse Hanford Company
2355 Stevens Dr.,MSIN-H4-23
345 Hills Street/3000 Area
Richland, WA 99352

ATTEN: Jeanette Duncan

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

ATTEN: Ms. Carole Harris
PHONE: 818-357-3247

Maureen Parrish
CERTIFIED BY

CONTACT: MKP CIH

CLIENT: WHC SAMPLES: 10
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-FR-3 (SAF 93-051)
TAKEN: By Westinghouse Staff
TRANS: Federal Express
TYPE: Liquid
P.O. #: N3-07-117-SU-AR
INVOICE: under separate cover

SAMPLE IDENTIFICATION

01	B08YC5
01	B08YC5 MS
01	B08YC5 MSD
01	B08YC5
02	B08YC7
02	B08YC7 MS
02	B08YC7 MSD
03	B08Y91
03	B08Y91 MS
03	B08Y91 MSD
03	B08Y91
03	B08Y91 MS
03	B08Y91
03	B08Y91 Duplicate
03	B08Y91
03	B08Y91 Duplicate
03	B08Y91
04	B08Y93
05	B08YD0
05	B08YD0 Duplicate
05	B08YD0
05	B08YD0 MS
05	B08YD0
05	B08YD0 MS
06	B08YD2
07	B08YD5

TEST CODES and NAMES used on this workorder

BNCLPW	CLP Semivol. Water
PECLPL	CLP Pesticides Liq.
WCCLPL	Anions & Wet Chem.
WCLCS	Lab Control Sample Summary
WCL L	Chloride - WH120
WCQCD	Quality Control Summary
WCQCS	Quality Control Summary
WF L	Fluoride in Water
WNH3 L	Ammonia in Water
WPH L	pH of Liquid
WPO4 L	Phosphate in Liquids
WSO4 L	Sulfate (in Waters)
WSULFI	Sulfide
W ALK	Alkalinity
W COD	COD Water
W COND	Conductivity-Water
W TDS	Dissolved Solids

TMA Inc. REPORT

Work Order # A3-07-074

Received: 07/27/93

09/13/93 15:04:58

	SAMPLE IDENTIFICATION
07	B08YD5
07	B08YD5 Duplicate
07	B08YD5
07	B08YD5 Duplicate
08	B08YD7
09	Wet Chemistry Blank
09	LCS
10	Wet Chemistry Blank 8/6/93
10	LCS 8/6/93

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YC5 FRACTION 01F TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	13.5	mg/L	2.0
Fluoride	300.0	0.2	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	7.8	pH	0.1
Sulfate	300.0	85	mg/L	10
Elect. Conductivity	120.1	835	umho/cm	6

FORM I

9713508.1308

000012

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YC5 FRACTION 01G TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	262	mg/L	2

FORM I

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YC5 FRACTION 01H TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	574	mg/L	5

FORM I

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YC5 FRACTION 01I TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

9713508.1311

000015

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YC5 FRACTION 01J TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

9713508.1312

000016

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08Y91 FRACTION 03F TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	14.6	mg/L	2.0
Fluoride	300.0	0.2	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	7.7	pH	0.1
Sulfate	300.0	82	mg/L	10
Elect. Conductivity	120.1	830	umho/cm	6

FORM I

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93 Results by Sample

SAMPLE ID B08Y91 FRACTION 03H TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	262	mg/L	2

FORM I

TMA Inc. REPORT

Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08Y91 FRACTION 03J TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	609	mg/L	5

FORM I

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08Y91 FRACTION 03L TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

9713508.1316

000020

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08Y91 FRACTION 03M TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD0 FRACTION 05D TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	<0.2	mg/L	0.2
Fluoride	300.0	<0.1	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	5.9	pH	0.1
Sulfate	300.0	<1	mg/L	1
Elect. Conductivity	120.1	<6	umho/cm	6

FORM I

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD0 FRACTION 05F TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	<2	mg/L	2

FORM I

9713508.1319

000023

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD0 FRACTION 05G TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	38	mg/L	5

FORM I

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD0 FRACTION 05N TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD0 FRACTION 05J TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

9713508.1322

000026

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD5 FRACTION 07D TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	<0.2	mg/L	0.2
Fluoride	300.0	<0.1	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	5.9	pH	0.1
Sulfate	300.0	<1	mg/L	1
Elect. Conductivity	120.1	<6	umho/cm	6

FORM I

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD5 FRACTION 07E TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	<2	mg/L	2

FORM I

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD5 FRACTION 07F TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	9	mg/L	5

FORM I

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD5 FRACTION 07G TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93 Results by Sample

SAMPLE ID B08YD5 FRACTION 07I TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

9213508.1327

RECORD COPY

TMA

WESTINGHOUSE HANFORD COMPANY

OCT 1993
RECEIVED
SDLA

Results of Analyses For:

ORGANICS & GENERAL CHEMISTRY
Case No. 07-077
(TMA/ARLI Work Order # A3-07-077)

METALS & NITRATE/NITRITE
Case No. N3-07-123
(TMA/Skinner & Sherman W.O. # S3-07-292, S3-07-293, & S3-07-294)

TOTAL ORGANIC CARBON & TOTAL ORGANIC HALOGENS
Case No. N3-07-123
(TMA/ERG Work Order # E3-07-149)

September 29, 1993

TMA Master Work Order N3-07-123

i 5/16/96 M.H.

PAGE 1 9713508.1328 CHAIN OF CUSTODY ORD # N3-07-123

RCVD: 07/28/93 DUE: 09/08/93 07/28/93 15:24:32 KEEP: 09/08/94 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SV and CATEGORY
01A-W	B08Y16	UNFILTEREDARLI	WH018 WH019 WH020 WH043 WH114 WH121 WH122 WH128 WH131 WH132 WH140
01C-W	B08Y16 MS	UNFILTEREDARLI	WH018 WH019 WH020 WH043 WH114 WH140
01D-W	B08Y16 MSD	UNFILTEREDARLI	WH018 WH019 WH020
01E-W	B08Y16 DUP	UNFILTEREDARLI	WH043 WH114 WH121 WH122 WH128 WH131 WH132 WH140
03A-W	B08Y18	ARLI	WH018

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
[illegible]	7-28-93	ARLI		C. Harris	7/29/93

9713508.1329

000002A

NB-07-123

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/23/93

Ice Chest No. TLC

Field Logbook No. EFL-1055

Bill of Lading/Airbill No. 2519008822

Offsite Property No. W93-0-0585-31

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Sample Identification

B08Y16

~~3~~, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
~~1~~, 2L & ~~1~~, 1L, aG; WATER; CLP-SEMI VOA
~~1~~, 2L & 1, ~~1L~~, aG; WATER; CLP-PCB's/PEST(pH 5-9)
~~1~~, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
~~1~~, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
~~1~~, 250ml, P, WATER; ALKALINITY
~~1~~, 500ml, P, WATER; TDS
~~1~~, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
~~1~~, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
~~1~~, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
~~1~~, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
~~1~~, 1L, P, WATER; Cn(NaOH to pH 12.0) SS
~~1~~, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./
ALPHA SPEC.(to include U-235/238,Pu-239/240,
Am-241), Sr-90 (HNO3 to pH<2.0)
~~1~~, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
~~1~~, 250ml, Gs, WATER; TRITIUM/C-14

B08Y17

~~1~~, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

B08Y18

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

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
K.D. Lee K.D. Lee	7/23/93	1324	PC Cole PC Cole	7/27/93	0820
PC Cole PC Cole	7/27/93	0820	Kermit Blum K. Blum	7-28-93	1115

Final Sample Disposition

Disposal Method:

Disposed by:

Date/Time:

Comments: reling. to fr.g. # 3A by K.D. Lee 7/23/93 1324

A-6000-407 (12/92) WEF061

9713508.1330

000002B

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/23/93 Time 0929 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO8Y16	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO8Y17	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO8Y18	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2519008822 OPC #: W93-0-0585-31

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 7-28-93

Analysis Required

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

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

A-6000-406(05/90)

00000 2C

9713508.1331

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/23/93

Ice Chest No. TLC

Field Logbook No. EFL-1055

Bill of Lading/Airbill No. 2519008822

Offsite Property No. W93-D-0585-31

Method of Shipment EMERY

Shipped to ~~WESTON~~ TMA PCC 7/27/93

Possible Sample Hazards/Remarks

Sample Identification

B08Y19

1, 125ml, aGs, WATER; TOC(H2SO4 to pH<2.0)
1, 500ml, aGs, WATER; TOX(HNO3 to pH<2.0)

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
K.D. Lee K.D. Lee	7/23/93	1324	PCCole PCCole	7/27/93	0820
PCCole PCCole	7/27/93	0820	Kermit Blum K. Blum	7-28-93	1115

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: rel'd. to Bldg # 3A by K.D. Lee 7/23/93 1324

A-6000-407 (12/92) WEF061

9713508.1332

000002D

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, L. Walker Date Sampled 7/23/93 Time 0929 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8919	1; 125ml; aGs	WATER	TOC (H2SO4 to pH<2.0)
	1; 250ml; aGs	WATER	TOX (HNO3 to pH<2.0)
			OPC: # W93-D-0585-31
			BOL: # 2519008822
			TASK#: 93-174

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 7-28-93

Analysis Required

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

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

A-6000-406(05/90)

9713508.1333

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI PAGE : _____ OF _____

RECEIVED BY (PRINT NAME): Phillip Hood LOG-IN-DATE : 7/29/93

RECEIVED BY (SIGNATURE): P Hood

ICE CHEST NO. TLC

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.: 7290260773
7. Sample Tags Present / Absent*
8. Sample Tag 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: 7/29/93.
12. Temp of ice chest 2. °C
13. Time Recieved: 9.00.

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B08416	A307077-01	
	B08418	A307077-02	

SAMPLE TRANSFER

Fraction: _____ _____

Area #: _____ _____

By: _____ _____

On: _____ _____

* Contact SMO and attach record of resolution

Reviewed By: _____ Logbook No.: _____

Date: _____ Logbook Page No.: _____

FORM DC-1

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7290260773

7290260773

RECIPIENT'S COPY

1 Date 7-28-92

From (Your Name) Please Print: Sample Control

Your Phone Number (Very Important): (10-235-2633

Company:

Department/Floor No.:

Street Address:

City:

State:

ZIP Required:

2 To (Recipient's Name) Please Print: CAROLE HARRIS

Recipient's Phone Number (Very Important): (818) 357-3247

Company: TMA / ARLO

Department/Floor No.:

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

City: Monrovia,

State: Ca

ZIP Required: 91016

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2340-6406

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

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

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

* Economy Letter rate not available. Minimum charge: One pound economy rate.

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 Dangerous Goods Shipper's Declaration not required

Dry Ice, 9, UN 1845, ____ X ____ kg. 904 III

- 7 [ ] OTHER SPECIAL SERVICE
- 8 [ ]
- 9 [ ] SATURDAY PICK-UP (Extra charge)
- [ ]
- 12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
Total 1	Total 70	Total

DIM SHIPMENT (Chargeable Weight) [ ] lbs.

L x W x H

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

7 Release Signature:

Emp. No.: Date:

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

Street Address:

City: State: Zip:

Received By: X

Date/Time Received: FedEx Employee Number:

Federal Express Use

Base Charges

Declared Value Charge

Other 1

Other 2

Total Charges

REVISION DATE 11/92
PART #137204 FXEM 3/93
FORMAT #155

155

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9713508.1334

000004

TMA/ARLI
The new Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 7/29/93 COMPANY TMA/NORCAL OTHER ORD # 7290260773

Surveyor's Name MARK S. McCRAY

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

Serial No. 110289 / 02619 Serial No. 407726 / 02628

Calibration Date 4/26/93 Calibration Date 2/16/93

Instrument Calibration Factor 0.280 Instrument Calibration Factor 0.190

Sample	Location	HP-210 CPM	HP-210 Factor	HP-210 DPM	AC-3-7 CPM	AC-3-7 Factor	AC-3-7 DPM	Surface or Envelope?	Activity pCi/gm or pCi/100 cm²
Background		43.0			0				
Consistency		7,610	0.2938		5,020	0.1845			
Smear TLC		31.0			1.0			None	
NOTE:	IONIC CHARGE	COUNT=	33 μR/h	INSTRUMENT		USED:	VICTOREEN MODEL	450P	
Repeated	WHC	(5)	samples	each		<50pCi/gram			

Comments

All OK ✓ Approved MSM

Not OK Date 7/29/93

GENERAL CHEMISTRY RESULTS

CASE NO. 07-077

Water Sample #:

B08Y16

CASE NARRATIVE

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

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

Maureen Parrish

Maureen Parrish

9713508.1337

TMA Inc. REPORT Work Order # A3-07-077

Received: 07/29/93 09/27/93 15:51:04

REPORT TO: Westinghouse Hanford Company
2355 Stevens Dr.,MSIN-H4-23
345 Hills Street/3000 Area
Richland, WA 99352
ATTEN: Jeanette Duncan

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

Maureen Parrish
CERTIFIED BY

CONTACT: MKP 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-FR-3 (SAF 93-051)
TAKEN: By Westinghouse Staff
TRANS: Federal Express
TYPE: Liquid
P.O. #: N3-07-123-SU-AR
INVOICE: under separate cover

SAMPLE IDENTIFICATION

01	B08Y16
01	B08Y16 MS
01	B08Y16 MSD
01	B08Y16
01	B08Y16 MS
01	B08Y16 MSD
01	B08Y16
01	B08Y16 MS
01	B08Y16 Duplicate
01	B08Y16
01	B08Y16 Duplicate
01	B08Y16
01	B08Y16 Duplicate
01	B08Y16
01	B08Y16 MS
01	B08Y16 Duplicate
01	B08Y16
01	B08Y16 MS
01	B08Y16 Duplicate
02	B08Y18
02	B08Y18 MS
02	B08Y18 MSD
03	Lab Blank
03	LCS

TEST CODES and NAMES used on this workorder

BNCLPW	CLP Semivol. Water
PECLPL	CLP Pesticides Liq.
WCCLPL	Anions & Wet Chem.
WCLCS	Lab Control Sample Summary
WCL L	Chloride - WH120
WCQCD	Quality Control Summary
WCQCS	Quality Control Summary
WF L	Fluoride in Water
WNH3 L	Ammonia in Water
WPH L	pH of Liquid
WPO4 L	Phosphate in Liquids
WSO4 L	Sulfate (in Waters)
WSULFI	Sulfide
W ALK	Alkalinity
W COD	COD Water
W COND	Conductivity-Water
W TDS	Dissolved Solids

TMA Inc. REPORT Work Order # A3-07-077

Received: 07/29/93 Results by Sample

SAMPLE ID B08Y16 FRACTION 01B TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	1.6	mg/L	0.2
Fluoride	300.0	0.1	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	7.8	pH	0.1
Sulfate	300.0	20	mg/L	1
Elect. Conductivity	9050	221	umho/cm	6

FORM I

9715508.1359

TMA Inc. REPORT Work Order # A3-07-077

Received: 07/29/93 Results by Sample

SAMPLE ID B08Y16 FRACTION 01K TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	85	mg/L	2

FORM I

9713508.1340

TMA Inc. REPORT Work Order # A3-07-077

Received: 07/29/93 Results by Sample

SAMPLE ID B08Y16 FRACTION 01M TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	154	mg/L	5

FORM I

9713508.1341

TMA Inc. REPORT Work Order # A3-07-077

Received: 07/29/93

Results by Sample

SAMPLE ID B08Y16 FRACTION 010 TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

9715508.1342

TMA Inc. REPORT Work Order # A3-07-077

Received: 07/29/93 Results by Sample

SAMPLE ID B08Y16 FRACTION 01R TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

9713508.1343

RECORD COPY

OCT 1993
RECEIVED
SOLA

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

GENERAL CHEMISTRY & ORGANICS
Case No. 08-001
(TMA/ARLI Work Order # A3-08-001)

METALS & NITRATE/NITRITE
Case N3-07-134
(TMA/Skinner & Sherman W.O. Nos. S3-08-012,
S3-08-013 & S3-08-014)

TOTAL ORGANIC CARBON/TOTAL ORGANIC HALOGENS
Case N3-07-134
(TMA/ERG W.O. E3-08-004)

October 1, 1993

TMA Master Work Order N3-07-134

i 5/16/96 M.H.

9213508.1344

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N3-07-134

RCVD: 07/30/93 DUE: 08/29/93 07/30/93 15:16:18 KEEP: 08/29/94 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SV and CATEGORY						
01A-W	B08Y11	UNFILTERED	ARLI	WH018	WH019	WH020	WH043	WH114	WH121	WH122
				WH128	WH131	WH132	WH140			
02A-W	B08Y81	UNFILTERED	ARLI	WH018	WH019	WH020	WH043	WH114	WH121	WH122
				WH128	WH131	WH132	WH140			
03A-W	B08Y86	UNFILTERED	ARLI	WH018	WH019	WH020	WH043	WH114	WH121	WH122
				WH128	WH131	WH132	WH140			
03C-W	B08Y86 MS	UNFILTERED	ARLI	WH018	WH019	WH020	WH043	WH114	WH140	
03D-W	B08Y86 MSD	UNFILTERED	ARLI	WH018	WH019	WH020				
03E-W	B08Y86 DUP	UNFILTERED	ARLI	WH043	WH114	WH121	WH122	WH128	WH131	WH132
				WH140						
07A-W	B08Y13		ARLI	WH018						
08A-W	B08Y83		ARLI	WH018						
09A-W	B08Y88		ARLI	WH018						

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
tyamamoto	7-30-93	ARLI	7-30-93	C Harris	8/2/93

9713508.1345

000002A

N3-07-134

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/28/93

Ice Chest No. SML-119

Field Logbook No. EFL-1055

Bill of Lading/Airbill No. 2519009449

Offsite Property No. W93-0-C585-32

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Sample Identification

B08Y11

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

B08Y12

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

B08Y13

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

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

Relinquished By	Date	Time	Received By	Date	Time
K.D. Lee K.D. Lee	7/28/93	1249	PC Cole PC Cole	7/29/93	0821
PC Cole PC Cole	7/29/93	0821	Kermit Blum K. Blum	7/30/93	2:30

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

relinq. to frig. # 3A by K.D. Lee 7/28/93 1249

Bubbles Present B08Y13 CLP VOA's PCC 7/29/93

* Bubbles in one VOA vial B08Y13 received @ TMA/NORCAL. KB

A-6000-407 (12/92) WEF061

000002B

9713508.1346

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/28/93 Time 1048 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO8Y11	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO8Y12	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO8Y13	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2519009449 OPC #: W93-0-0585-32

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 7/30/93

Analysis Required

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

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

A-6000-406(05/90)

9713508.1347

000002C

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/28/93

Ice Chest No. SMC-119

Field Logbook No. EPL-1055

Bill of Lading/Airbill No. 2519009449

Offsite Property No. W93-0-0585-32

Method of Shipment EMERY

Shipped to ~~WESTON~~ TMA PCC 7/29/93

Possible Sample Hazards/Remarks

Sample Identification

B08Y14

1, 125ml, aGs, WATER; TOC(H2SO4 to pH<2.0)
1, 500ml, aGs, WATER; TOX(HNO3 to pH<2.0)

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
Kimberly D. Lee K.D. Lee	7/28/93	1249	PC Cole PC Cole	7/29/93	0821
PC Cole PC Cole	7/29/93	0821	Kermit Blum K. Blum	7/30/93	2:30 PM

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relinq. to frig. #3A by K.D. Lee 7/28/93

A-6000-407 (12/92) WEF061

000002

9713508.1348

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, L. Walker Date Sampled 7/28/93 Time 1048 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B08Y14	1; 125ml; aGs	WATER	TOC (H2SO4 to pH<2.0)
	1; 250ml; aGs	WATER	TOX (HNO3 to pH<2.0)
			OPC: # W93-D-0585-32
			BOL: # 2519009449
			TASK#: 93-174

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 7/30/93

Analysis Required

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

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

A-6000-406(05/90)

9713508.1349

0000026

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/28/93

Ice Chest No. NJ320

Field Logbook No. EFL-1055

Bill of Lading/Airbill No. 2519009449

Offsite Property No. W93-0-0585-32

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Sample Identification

BO 8Y81

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

BO 8Y82

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

BO 8Y83

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

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
~~Kristy Baker~~ K.D. Lee	7/28/93	1249	PC Cole PC Cole	7/29/93	0818
PC Cole PC Cole	7/29/93	1087	Kermit Blum K. Blum	7/30/93	2:30 PM

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relinq to Frig. # 3A by K.D. Lee 7/28/93 1249

Bubbles Present B08Y83 CLP VOA's PCC 7/29/93

A-6000-407 (12/92) WEF061

9713508.1350

600002F

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/28/93 Time 0944 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8X81	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO 8X82	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO 8X83	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 25190-9449 OPC #: W93-0-0585-32

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 7/30/93

Analysis Required

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

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

A-6000-406(05/90)

9713508.1351

000002G

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/28/93

Ice Chest No. NJ 320

Field Logbook No. EFC-1055

Bill of Lading/Airbill No. 2519009449

Offsite Property No. W93-0-0585-32

Method of Shipment EMERY

Shipped to ~~WESTON~~ TMA PCC 7/29/93

Possible Sample Hazards/Remarks

Sample Identification

BO 8484

1, 125ml, aGs, WATER; TOC(H2SO4 to pH<2.0)

1, 500ml, aGs, WATER; TOX(HNO3 to pH<2.0)

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
[illegible] K.D. Lee	7/28/93	1249	PC Cole PC Cole	7/29/93	0818
R. Cole PC Cole	7/29/93	0818	Kermit Blum K. Blum	7/30/93	2:30 PM

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relinq. to Freig. # 3A by K.D. Lee 7/28/93 1249

A-6000-407 (12/92) WEF061

9713508.1352

0000021

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, L. Walker Date Sampled 7/28/93 Time 0944 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8Y84	1; 125ml; aGs	WATER	TOC (H2SO4 to pH<2.0)
	1; 250ml; aGs	WATER	TOX (HNO3 to pH<2.0)
			OPC: # W93-0-0585-32
			BOL: # 2519009449
			TASK#: 93-174

Field Information** _____

Special Handling and/or Storage _____

Possible Sample Hazards _____

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 7/30/93

Analysis Required _____

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

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

A-6000-406(05/90)

9713508.1353

000002

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/28/93

Ice Chest No. SML-94

Field Logbook No. EFL-1055

Bill of Lading/Airbill No. 2519009449

Offsite Property No. W93-0-0585-33

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Sample Identification

BO 8986

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

BO 8987

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

BO 8988

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

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

Relinquished By	Date	Time	Received By	Date	Time
~~Kathy~~ K.D. Lee K.D. Lee	7/28/93		PC Cole PC Cole	7/29/93	0826
PC Cole PC Cole	7/29/93	0826	Kermit Blum K. Blum	7/30/93	2:30 PM

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relinq. to trig. # 3 C by K.D Lee 7/28/93 1348

A-6000-407 (12/92) WEF061

9713508.1354

000002

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/28/93 Time 0841 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8986	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO 8987	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO 8988	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2519009449 OPC #: W93-D-0585-33

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 7/30/93

Analysis Required

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

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

A-6000-406(05/90)

9713508.1355

000002

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/28/93

Ice Chest No. SML-94

Field Logbook No. EFL-1055

Bill of Lading/Airbill No. 2519009449

Offsite Property No. W93-0-0585-33

Method of Shipment EMERY

Shipped to ~~WESTON~~ TMA PCL 7/29/93

Possible Sample Hazards/Remarks

Sample Identification

BO 8Y89

1, 125ml, aGs, WATER; TOC(H2SO4 to pH<2.0)
1, 500ml, aGs, WATER; TOX(HNO3 to pH<2.0)

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
~~[illegible]~~ K.D. Lee	7/28/93		PC Cole PC Cole	7/29/93	0826
PC Cole PC Cole	7/29/93	0826	Kenneth Blum K. Blum	7/30/93	8:30 PM

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relinq. to Bldg # 3C by KDLee 7/28/93 1348

A-6000-407 (12/92) WEF061

9713508.1356

000002L

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, L. Walker Date Sampled 7/28/93 Time 0841 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8Y89	1; 125ml; aGs	WATER	TOC (H2SO4 to pH<2.0)
	1; 250ml; aGs	WATER	TOX (HNO3 to pH<2.0)
			OPC: # W93-0-0585-33
			BOL: # 2519009449
			TASK#: 93-174

Field Information** _____

Special Handling and/or Storage _____

Possible Sample Hazards _____

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 7/30/93

Analysis Required _____

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

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

A-6000-406(05/90)

TMA/ARLI

OFF-HOUR RECEIVING OF EPA/CLP SAMPLES

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

00000

CONTAINER ID	RECEIVED		RELINQUISHED		TRANSPORTATION MODE	AIR BILL #	CONTAINER CONDITION		CONTAINER SEAL		HOLDING LOCATION
	DATE	TIME	DATE	TIME			INTACT	NOT INTACT	INTACT	NOT INTACT	
SML-119	DATE 7-31	TIME	DATE	TIME	FED EX	729225920	X		X		WALKIN
	BY D.W.		BY								
NJ-320	DATE 7-31	TIME	DATE	TIME	FED EX	637245164	X		X		WALKIN
	BY D.W.		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								
	DATE	TIME	DATE	TIME							
	BY		BY								

97 13508 1367

SAMPCONZ.FRM, DOC-01

9713508.1358

000004

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI

PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): D. WHITAKER

LOG-IN-DATE : 8-2-93

RECEIVED BY (SIGNATURE): D Whitaker

ICE CHEST NO. NJ-320

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.: 7290259200 ~~7290260200~~
7. Sample Tags — Present / Absent*
8. Sample Tag 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: 7-31-93
12. Temp of ice chest: 7 °C
13. Time Recieved: 0930

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B08Y81		
	B08Y86		
	B08Y11		
	B08Y83		

SAMPLE TRANSFER

Fraction: _____

Area #: _____

By: _____

On: _____

* Contact SMO and attach record of resolution

Reviewed By: _____ Logbook No.: _____

Date: _____ Logbook Page No.: _____

FORM DC-1

9HCE/LAN 31.TOL

9713508.1359

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI

PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): D. WHITTAKER

LOG-IN-DATE : 8-2-93

RECEIVED BY (SIGNATURE): D Whittaker

ICE CHEST NO. SML-119

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.: 7290259200
7. Sample Tags — Present / Absent*
8. Sample Tag 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: 7-31-93
12. Temp of ice chest 4 °C
13. Time Recieved: 0930

SAMPLE TRANSFER

Fraction: _____

Area #: _____

By: _____

On: _____

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B08Y11		
	B08Y81		
	B08Y86		
	B08Y88		
	B08Y13		

* Contact SMO and attach record of resolution

Reviewed By: _____ Logbook No.: _____

Date: _____ Logbook Page No.: _____

FORM DC-1

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FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7290259200

7290259200

RECIPIENT'S COPY

1 Date 7-30-93

From (Your Name) Please Print: Sample Control

Your Phone Number (Very Important): 610-835-2033

Company: [illegible] /[illegible]

Department/Floor No.

Street Address: 20[illegible] [illegible] [illegible]

City: [illegible] State: CA ZIP Required: [illegible]

2 To (Recipient's Name) Please Print: CAROLE HARRIS

Recipient's Phone Number (Very Important): (818) 357-3247

Company: TMA/ARLI

Department/Floor No.

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

City: MONROVIA State: CA. ZIP Required: 91016

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2340-6406

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] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

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

Economy Two-Day (Delivery by second business day†)
30 [ ] ECONOMY**
* Economy Letter rate not available. Minimum charge: One pound economy rate.

Government Overnight (Restricted to 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 [ ] DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [X]
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE (Dangerous Goods Shipper's Declaration not required)
Dry Ice, 9, UN 1845 ____ x ____ kg. 904 IF
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP* (Extra charge)
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)*

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
2		
	2.5	
Total	Total	Total
2	16	

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

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

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

7 Release Signature:

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

REVISION DATE 11/92
PART #137204 FXEM 3/93
FORMAT #155
155
© 1992-93 FEDEX
PRINTED IN U.S.A.

97135088.1360

9713508.1361

000007

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 7/31/93 COMPANY TMA/NORCAL OTHER ORD # 7290259200

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 4/26/93 Calibration Date 2/16/93

Instrument Calibration Factor 0.280 Instrument Calibration Factor 0.190

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 Alpha or Beta
Background		48.0			0				
Consistency		7,230	0.2791		5,050	0.1856			
Sample SML 119		34.0			2.0			NONE	
NJ320		31.0			0			NONE	
NOTE:	IONIC CHARGE	COUNT	=33μR/hr,	INSTRUMENT	VICTOREEN	USED:	MODEL	450	P
Reported TMA/NORCAL: (15) samples each									
	<50pCi/gram								

Comments

All OK ✓ Approved MSM

Not OK Date 7/31/93

GENERAL CHEMISTRY RESULTS

CASE NO. 08-001

Water Sample #:

B08Y11 B08Y81 B08Y86

CASE NARRATIVE

The holding time for the pH and the COD analysis was exceeded. Careful review of the QC analysis indicates that the data is reliable.

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

Maureen Parrish

Maureen Parrish

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93 09/28/93 15:19:25

REPORT TO
Westinghouse Hanford Company
2355 Stevens Dr.,MSIN-H4-23
345 Hills Street/3000 Area
Richland, WA 99352
ATTEN Jeanette Duncan

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

Maureen Parrish
CERTIFIED BY

CONTACT MKP CIH

CLIENT WHC SAMPLES 7
COMPANY Westinghouse Hanford Company
FACILITY

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

WORK ID 100-FR-3
TAKEN Westinghouse Staff
TRANS Federal Express
TYPE Liquid
P.O. # N3-07-134-SU-AR
INVOICE under separate cover

SAMPLE IDENTIFICATION

01	B08Y11
01	B08Y11 MS
01	B08Y11 MSD
01	B08Y11
01	B08Y11 MS
01	B08Y11
01	B08Y11 Duplicate
01	B08Y11
01	B08Y11 Duplicate
01	B08Y11
01	B08Y11 MS
02	B08Y13
03	B08Y81
03	B08Y81 MS
03	B08Y81 MSD
03	B08Y81
03	B08Y81 Duplicate
03	B08Y81
03	B08Y81 MS
03	B08Y81
04	B08Y83
04	B08Y83 MS
04	B08Y83 MSD
05	B08Y86
05	B08Y86 Duplicate
06	B08Y88

TEST CODES and NAMES used on this workorder

BNCLPW	CLP Semivol. Water
PECLPL	CLP Pesticides Liq.
WCCLPL	Anions & Wet Chem.
WCLCS	Lab Control Sample Summary
WCL L	Chloride - WH120
WCQCD	Quality Control Summary
WCQCS	Quality Control Summary
WF L	Fluoride in Water
WNH3 L	Ammonia in Water
WPH L	pH of Liquid
WPO4 L	Phosphate in Liquids
WSO4 L	Sulfate (in Waters)
WSULFI	Sulfide
W ALK	Alkalinity
W COD	COD Water
W COND	Conductivity-Water
W TDS	Dissolved Solids

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93

Results by Sample

SAMPLE ID B08Y11 FRACTION 01F TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	9.1	mg/L	0.2
Fluoride	300.0	0.7	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	7.9	pH	0.1
Sulfate	300.0	52	mg/L	5
Elect. Conductivity	9050	477	umho/cm	6

FORM I

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93 Results by Sample

SAMPLE ID B08Y11 FRACTION 01H TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	158	mg/L	2

FORM I

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93

Results by Sample

SAMPLE ID B08Y11 FRACTION 01J TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	300	mg/L	5

FORM I

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93

Results by Sample

SAMPLE ID B08Y11 FRACTION 01L TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

9713508.1368

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93 Results by Sample

SAMPLE ID B08Y11 FRACTION 01M TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93

Results by Sample

SAMPLE ID B08Y81 FRACTION 03F TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	12.8	mg/L	1.0
Fluoride	300.0	0.3	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	7.9	pH	0.1
Sulfate	300.0	59	mg/L	5
Elect. Conductivity	9050	657	umho/cm	6

FORM I

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93

Results by Sample

SAMPLE ID B08Y81 FRACTION 03H TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	204	mg/L	2

FORM I

9713588.157

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93 Results by Sample

SAMPLE ID B08Y81 FRACTION 03I TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	431	mg/L	5

FORM I

9713509.1372

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93

Results by Sample

SAMPLE ID B08Y81 FRACTION 03J TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

9713508.1573

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93 Results by Sample

SAMPLE ID B08Y81 FRACTION 03L TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93

Results by Sample

SAMPLE ID B08Y86 FRACTION 05D TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	32.3	mg/L	1.0
Fluoride	300.0	0.5	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	7.7	pH	0.1
Sulfate	300.0	102	mg/L	5
Elect. Conductivity	9050	874	umho/cm	6

FORM I

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93

Results by Sample

SAMPLE ID B08Y86 FRACTION 05E TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	204	mg/L	2

FORM I

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93 Results by Sample

SAMPLE ID B08Y86 FRACTION 05F TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	577	mg/L	5

FORM I

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93

Results by Sample

SAMPLE ID B08Y86 FRACTION 05G TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

TMA Inc. REPORT Work Order # A3-08-001

Received: 08/01/93

Results by Sample

SAMPLE ID B08Y86 FRACTION 05H TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

9713509.1379

RECORD COPY

OCT 2013
RECEIVED
SOLA

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

GENERAL CHEMISTRY & ORGANICS
Case No. 08-008
(TMA/ARLI Work Order # A3-08-008)

METALS & NITRATE/NITRITE
Case N3-08-009
(TMA/Skinner & Sherman W.O. Nos. S3-08-026,
S3-08-027 & S3-08-028)

TOTAL ORGANIC CARBON/TOTAL ORGANIC HALOGENS
Case N3-08-009
(TMA/ERG W.O. E3-08-013)

October 4, 1993

TMA Master Work Order N3-08-009

5/16/96 M.H.

 TMA/Norcal CHAIN OF CUSTODY ORD # N3-08-009 000002

RCVD: 08/03/93 DUE: 09/07/93 08/03/93 13:29:51 KEEP: 09/07/94 DISP: S

DASH	SAMPLE IDENTIFICATION			STORED	TESTS for FRACTIONS with work in DEPT: SV and CATEGORY
01A-W	B08Y21		UNFILTERED	ARLI	WH018 WH019 WH020 WH043 WH114 WH121 WH122 WH128 WH131 WH132 WH140
01C-W	B08Y21	MS	UNFILTERED	ARLI	WH018 WH019 WH020 WH043 WH114 WH140
01D-W	B08Y21	MSD	UNFILTERED	ARLI	WH018 WH019 WH020
01E-W	B08Y21	DUP	UNFILTERED	ARLI	WH043 WH114 WH121 WH122 WH128 WH131 WH132 WH140
03A-W	B08Y23			ARLI	WH018

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	8-3-93	ARLI	8-3-93	C. Harris	8/4/93

9713508.1381

000002A

N3-08-009

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-FR-3

Ice Chest No. SML-80

Bill of Lading/Airbill No. 2519009460

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 7/30/93

Field Logbook No. EFL-1055

Offsite Property No. W93-0-0585-35

Sample Identification

B08Y21

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

B08Y22

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

B08Y23

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

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

Relinquished By	Date	Time	Received By	Date	Time
K.D. Lee K.D. Lee	7/30/93	1021	AJ Simpson AJ SIMPSON	8/2/93	0811
AJ Simpson AJ SIMPSON	8/2/93	0811	Mark M Clark TMA	8-3-93	~~1246~~ 1130 8-3-93 K

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: rel'ng. to Req. # 3A by K.D. Lee 7/30/93 1021

A-6000-407 (12/92) WEF061

9713508.1382

000002B

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/30/93 Time _____ hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8Y21	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO 8Y22	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO 8Y23	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2519009460 OPC #: W93-0-0585-3

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 8-3-93

Analysis Required

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

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

A-6000-406(05/90)

9713508.1383

000009

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/30/93

Ice Chest No. SML-80

Field Logbook No. EFL-4055

Bill of Lading/Airbill No. 2519009460

Offsite Property No. W93-0-0585-35

Method of Shipment EMERY

Shipped to ~~WESTON~~ TMA Nashville

Possible Sample Hazards/Remarks

Sample Identification

B08Y24
1, 125ml, aGs, WATER; TOC(H2SO4 to pH<2.0)
1, 500ml, aGs, WATER; TOX(HNO3 to pH<2.0)

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
[signature] KD Lee	7/30/93	1021	[signature] AJ SIMPSON	8/2/93	0812
[signature] AJ SIMPSON	8/2/93	0812	[signature] TMA Nashville	8-3-93	~~1245~~ 1130 8-3-93 KB

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relinq to trip. #3A by K.D. Lee 7/30/93 1021

A-6000-407 (12/92) WEF061

9713508.1384

000002D

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, L. Walker Date Sampled 7/30/93 Time _____ hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO B424	1; 125ml; aGs	WATER	TOC (H2SO4 to pH<2.0)
	1; 250ml; aGs	WATER	TOX (HNO3 to pH<2.0)
			OPC: # W93-0-0585-55
			BOL: # 2519009460
			TASK#: 93-174

Field Information** _____

Special Handling and/or Storage _____

Possible Sample Hazards _____

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 8-3-95

Analysis Required _____

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

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

A-6000-406(05/90)

9713508.1395

SAMPLE LOG-IN SHEET

000003

LAB NAME : TMA/ARLI

PAGE : ____ OF ____

RECEIVED BY (PRINT NAME): Philip HOOD

LOG-IN-DATE : 8/4/93.

RECEIVED BY (SIGNATURE): P. Hood

ICE CHEST NO. SML 80.

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.: 7290260596,
7. Sample Tags — Present / Absent*
8. Sample Tag 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: 8/4/93
12. Temp of ice chest 70 °C
13. Time Recieved: 900.

SAMPLE TRANSFER

Fraction: ____

Area #: ____

By: ____

On: ____

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B08Y21		
	B08Y23		

* Contact SMO and attach record of resolution

Reviewed By: ____ Logbook No.: ____

Date: ____ Logbook Page No.: ____

FORM DC-1

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7290260596

7290260596

RECIPIENT'S COPY

1 Date 8-3-93

From (Your Name) Please Print: Sample Control

Your Phone Number (Very Important): (213-235-2633

Company: TMA/LOCAL

Department/Floor No.

Street Address: 2030 WRIGHT AVE

City: RICHMOND State: CA ZIP Required: 94804

2 To (Recipient's Name) Please Print: Carole Harris

Recipient's Phone Number (Very Important): (617) 357-3247

Company: TMA/ARLI

Department/Floor No.

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

City: Monrovia State: Ca ZIP Required: 91016

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on Invoice.): 2340 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 [XX] OTHER PACKAGING
- 16 [ ] FEDEX LETTER*
- 12 [ ] FEDEX PAK*
- 13 [ ] FEDEX BOX
- 14 [ ] FEDEX TUBE

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

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

* Economy Letter rate not available. Minimum charge: One pound economy rate.

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

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

† Delivery commitment may be later in some areas.

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

5 DELIVERY AND SPECIAL HANDLING (Check services required)
- 1 [ ] HOLD FOR PICK-UP (Fill in Box H)
- 2 [XXX] DELIVER WEEKDAY
- 3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [ ]
- 4 [ ] DANGEROUS GOODS (Extra charge)
- 5 [ ]
- 6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required

Dry Ice, 9, UN 1845, ____ x ____ kg. 904 III

- 7 [ ] OTHER SPECIAL SERVICE
- 8 [ ]
- 9 [ ] SATURDAY PICK-UP (Extra charge)
- [ ]
- 12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1		
Total 1	Total 63	Total

DIM SHIPMENT (Chargeable Weight) [ ] lbs.

L x W x H

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

7 Release Signature:

Emp. No. Date

[ ] Cash Received

[ ] Return Shipment

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

Street Address

City State Zip

Received By: X

Date/Time Received FedEx Employee Number

Federal Express Use

Base Charges

Declared Value Charge

Other 1

Other 2

Total Charges

REVISION DATE 11/92
PART #137204 FXEM 3/93
FORMAT #155

155

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TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 8/04/93 COMPANY TMA/NORCAL OTHER ORD # 7290260596

Surveyor's Name MARK S. McCRAY

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

Serial Nos. 910289 / 02619 Serial Nos. 907726 / 02678

Calibration Date 4/26/93 Calibration Date 2/16/93

Instrument Calibration Factor 0.280 Instrument Calibration Factor 0.190

Sample	Location	HP-210 CPM	HP-210 Factor	HP-210 DPM	AC-3-7 CPM	AC-3-7 Factor	AC-3-7 DPM	Surface or Breakage?	Activity dpm/100 cm² or dpm/g
Background		49.0			2.0				
Consistency		7,370	0.2845		4,970	0.1827			
Smear SML-80		32.0			0			None	
Reported WHC:									
6 samples each < 50 pCi/gm									

Comments

All OK ✓ Approved MSM

Not OK Date 8/04/93

GENERAL CHEMISTRY RESULTS

CASE NO. 08-008

Water Sample #:

B08Y21

CASE NARRATIVE

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

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

Maureen Parrish

Maureen Parrish

TMA Inc. REPORT Work Order # A3-08-008

Received: 08/04/93 09/28/93 11:39:15

REPORT TO: Westinghouse Hanford Company
2355 Stevens Dr.,MSIN-H4-23
345 Hills Street/3000 Area
Richland, WA 99352
ATTEN: Jeanette Duncan

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

Maureen Parrish
CERTIFIED BY

CONTACT: MKP 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-FR-3 (SAF 93-051)
TAKEN: By Westinghouse
TRANS: FEderal Express
TYPE: Liquid
P.O. #: N3-08-009-SU-AR
INVOICE: under separate cover

SAMPLE IDENTIFICATION

01	B08Y21
01	B08Y21 MS
01	B08Y21 MSD
01	B08Y21
01	B08Y21 MS
01	B08Y21 MSD
01	B08Y21
01	B08Y21 MS
01	B08Y21 Duplicate
01	B08Y21
01	B08Y21 Duplicate
01	B08Y21
01	B08Y21 Duplicate
01	B08Y21
01	B08Y21 MS
01	B08Y21 Duplicate
01	B08Y21
01	B08Y21 MS
01	B08Y21 Duplicate
02	B08Y23
02	B08Y23 MS
02	B08Y23 MSD
03	Wet Chemistry Blank
03	LCS

TEST CODES and NAMES used on this workorder

ALK	Alkalinity
BNCLPW	CLP Semivol. Water
PECLPL	CLP Pesticides Liq.
TDS	Dissolved Solids
WCCLPL	Anions & Wet Chem.
WCLCS	Lab Control Sample Summary
WCL L	Chloride - WH120
WCQCD	Quality Control Summary
WCQCS	Quality Control Summary
WF L	Fluoride in Water
WNH3 L	Ammonia in Water
WPH L	pH of Liquid
WPO4 L	Phosphate in Liquids
WSO4 L	Sulfate (in Waters)
WSULFI	Sulfide
W ALK	Alkalinity
W COD	COD Water
W COND	Conductivity-Water
W TDS	Dissolved Solids

TMA Inc. REPORT Work Order # A3-08-008

Received: 08/04/93

Results by Sample

SAMPLE ID B08Y21 FRACTION 01H TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/30/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	5.0	mg/L	0.2
Fluoride	300.0	0.1	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	7.9	pH	0.1
Sulfate	300.0	78	mg/L	10
Elect. Conductivity	9050	378	umho/cm	6

FORM I

TMA Inc. REPORT Work Order # A3-08-008

Received: 08/04/93

Results by Sample

SAMPLE ID B08Y21 FRACTION 01K TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/30/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	86	mg/L	2

FORM I

TMA Inc. REPORT Work Order # A3-08-008

Received: 08/04/93

Results by Sample

SAMPLE ID B08Y21 FRACTION 01M TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/30/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	229	mg/L	5

FORM I

TMA Inc. REPORT Work Order # A3-08-008

Received: 08/04/93

Results by Sample

SAMPLE ID B08Y21 FRACTION 010 TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/30/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

TMA Inc. REPORT Work Order # A3-08-008

Received: 08/04/93 Results by Sample

SAMPLE ID B08Y21 FRACTION 01R TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/30/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	0.33	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 07-074

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : July 27, 1993

1.0 DESCRIPTION OF CASE :

Eight water samples were analyzed for TCL Organics- Volatiles, Semivolatiles, and 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
B08YC5	A3-07-074-01A	V	WATER	0
B08YC5	A3-07-074-01B	SV	WATER	
B08YC5 MS	A3-07-074-01C	SV	WATER	
B08YC5 MSD	A3-07-074-01D	SV	WATER	
B08YC5	A3-07-074-01E	P	WATER	
B08YC7	A3-07-074-02A	V	WATER	7
B08YC7 MS	A3-07-074-02B	V	WATER	7
B08YC7 MSD	A3-07-074-02C	V	WATER	7
B08Y91	A3-07-074-03A	V	WATER	7
B08Y91	A3-07-074-03B	SV	WATER	
B08Y91	A3-07-074-03C	P	WATER	
B08Y91 MS	A3-07-074-03D	P	WATER	
B08Y91 MSD	A3-07-074-03E	P	WATER	
B08Y93	A3-07-074-04A	V	WATER	0
B08YD0	A3-07-074-05A	V	WATER	0
B08YD0	A3-07-074-05B	SV	WATER	
B08YD0	A3-07-074-05C	P	WATER	
B08YD2	A3-07-074-06A	V	WATER	7
B08YD5	A3-07-074-07A	V	WATER	0
B08YD5	A3-07-074-07B	SV	WATER	
B08YD5	A3-07-074-07C	P	WATER	
B08YD7	A3-07-074-08A	V	WATER	7

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

All of the samples were received unbroken and properly documented.

The WHC Chain-of-Custody, Sample Analysis Request, and Volatile vials for sample B08Y91 indicated that the samples were preserved with HCl. However, at the time of the Volatiles analysis of sample

B08Y91, the pH measured 7.0. The pH was confirmed on 09/07/93 to be 7.0.

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 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 in sample B08YC5MSD was slightly above the QC limits.

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 08/10/93 and was analyzed according to the USEPA CLP SOW. The sequence was analyzed by single injection into a dual column system.

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

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

SAMPLE NOTES :

LOW LEVEL WATER :

The samples were extracted and analyzed within the CLP SOW holding times. On the DB-1701 column, the matrix spike recoveries of Dieldrin for samples B08Y91MS and B08Y91MSD were high. These high recoveries were caused by an interference peak that coeluted with Dieldrin on the DB-1701 column, but was separated on the DB-17 column. The %D between the two GC

columns for Dieldrin exceeded 25%, therefore the Dieldrin results were "P" qualified.

All of the other QC results were within the limits specified by 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 9/15/93
Nicole Roth
CLP Program Manager

Widaya Ang 9/15/93
Wida Ang
Organics Manager

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y91

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M13

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	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	4	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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1E

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EPA SAMPLE NO.

B08Y91

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M13

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

EPA SAMPLE NO.

B08Y93

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-04A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M14

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	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.

B08Y93

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-04A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M14

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YC5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M09

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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EPA SAMPLE NO.

B08YC5

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M09

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

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1A

000147

EPA SAMPLE NO.

B08YC7

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M10

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	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	4	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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1E

000148

EPA SAMPLE NO.

B08YC7

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M10

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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.

B08YD0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M15

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	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

9213508.1407

1E

000150

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08YD0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M15

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

9713508.1408

1A

000151

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-06A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M16

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	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

EPA SAMPLE NO.

B08YD2

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-06A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M16

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

9713508.1410

1A

000153

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-07A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M17

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	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

EPA SAMPLE NO.

B08YD5

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-07A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M17

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-08A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M18

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	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

9713508.1413

1E

000156

EPA SAMPLE NO.

B08YD7

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-08A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M18

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y91

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-03B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I06

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

9713508.1415
1C

000158

EPA SAMPLE NO.

B08Y91

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-03B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I06

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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	
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.

B08Y91

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-03B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I06

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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 HYDROCARBON	20.82	62	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YC5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I03

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YC5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I03

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

EPA SAMPLE NO.

B08YC5

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I03

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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 HYDROCARBON	20.80	75	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-05B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I07

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

9713508.1421

000164
EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B08YD0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-05B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I07

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

EPA SAMPLE NO.

B08YD0

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-05B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I07

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-07B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I08

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-07B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I08

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

EPA SAMPLE NO.

B08YD5

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-07B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I08

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9713508.1426

000169

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y91

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-03C

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 07/27/93

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 07/28/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/11/93

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

9713508.1427

000170

ID

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YC5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-01E

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 07/27/93

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 07/28/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/11/93

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

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-05C

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 07/27/93

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 07/28/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/11/93

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

9713508.1429

1D

000172

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-07C

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 07/27/93

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 07/28/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/11/93

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 : 07-077

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : July 28, 1993

1.0 DESCRIPTION OF CASE :

Two water samples were analyzed for TCL Organics- Volatiles, Semivolatiles, and 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
B08Y16	A3-07-077-01A	V	WATER	0
B08Y16	A3-07-077-01B	SV	WATER	
B08Y16 MS	A3-07-077-01C	SV	WATER	
B08Y16 MSD	A3-07-077-01D	SV	WATER	
B08Y16	A3-07-077-01E	P	WATER	
B08Y16 MS	A3-07-077-01F	P	WATER	
B08Y16 MSD	A3-07-077-01G	P	WATER	
B08Y18	A3-07-077-02A	V	WATER	7
B08Y18 MS	A3-07-077-02B	V	WATER	7
B08Y18 MSD	A3-07-077-02C	V	WATER	7

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

All of the samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL 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 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 recoveries for 4-Nitrophenol in samples B08Y16MSD were slightly above the QC limits. In accordance with CLP protocol, no further action was required.

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

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 08/13/93 and was analyzed according to the USEPA CLP SOW. The sequence was analyzed by single injection into a dual column system.

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

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

SAMPLE NOTES :

LOW LEVEL WATER :

The samples were extracted and analyzed within the CLP SOW holding times. The %D for the TCX surrogate recovery in sample PBLK0730C exceeded the 25% advisory QC limit. The high recovery was caused by an interference peak that coeluted with TCX on the DB-1701 column.

All of the other QC results were within the limits specified by 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 9/27/93
Nicole Roth
CLP Program Manager

Widayat 9/27/93
Wida Ang
Organics Manager

EPA SAMPLE NO.

B08Y16

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30730M06

Level: (low/med) LOW Date Received: 07/28/93

% Moisture: not dec. ____ Date Analyzed: 07/30/93

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	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

EPA SAMPLE NO.

B08Y16

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30730M06

Level: (low/med) LOW Date Received: 07/28/93

% Moisture: not dec. ____ Date Analyzed: 07/30/93

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.

B08Y18

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30730M03

Level: (low/med) LOW Date Received: 07/28/93

% Moisture: not dec. ____ Date Analyzed: 07/30/93

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	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.

B08Y18

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30730M03

Level: (low/med) LOW Date Received: 07/28/93

% Moisture: not dec. ____ Date Analyzed: 07/30/93

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.

B08Y16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I10

Level: (low/med) LOW Date Received: 07/29/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/30/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B08Y16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I10

Level: (low/med) LOW Date Received: 07/29/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/30/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

9713508.1439

1F

EPA SAMPLE NO.

B08Y16

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I10

Level: (low/med) LOW Date Received: 07/29/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/30/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9713508.1440

1D

EPA SAMPLE NO.

B08Y16

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-01E

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 07/28/93

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 07/30/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/14/93

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 : 08-001

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : July 30, 1993

1.0 DESCRIPTION OF CASE :

Six water samples were analyzed for TCL Organics- Volatiles, Semivolatiles, and 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
B08Y11	A3-08-001-01A	V	WATER	0
B08Y11	A3-08-001-01B	SV	WATER	
B08Y11 MS	A3-08-001-01C	SV	WATER	
B08Y11 MSD	A3-08-001-01D	SV	WATER	
B08Y11	A3-08-001-01E	P	WATER	
B08Y13	A3-08-001-02A	V	WATER	7
B08Y81	A3-08-001-03A	V	WATER	0
B08Y81	A3-08-001-03B	SV	WATER	
B08Y81	A3-08-001-03C	P	WATER	
B08Y81 MS	A3-08-001-03D	P	WATER	
B08Y81 MSD	A3-08-001-03E	P	WATER	
B08Y83	A3-08-001-04A	V	WATER	7
B08Y83 MS	A3-08-001-04B	V	WATER	7
B08Y83 MSD	A3-08-001-04C	V	WATER	7
B08Y86	A3-08-001-05A	V	WATER	0
B08Y86	A3-08-001-05B	SV	WATER	
B08Y86	A3-08-001-05C	P	WATER	
B08Y88	A3-08-001-06A	V	WATER	7

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

1 of 4 Volatile vials for sample B08Y13 contained air bubbles.

All of the samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL WATER :

The samples were analyzed within the CLP SOW holding times.

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

TUNES :

All 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.

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

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 08/13/93 and was analyzed according to the USEPA CLP SOW. The sequence was analyzed by single injection into a dual column system.

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

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

SAMPLE NOTES :

LOW LEVEL WATER :

The samples were extracted and analyzed within the CLP SOW holding times. The TCX and DCB surrogate recoveries in all of the samples were within the advisory QC limits with the exception of TCX on the DB-1701 column for sample B08Y81MSD. However, the TCX recoveries on the DB-1701 column for samples B08Y11, B08Y81MS, B08Y81MSD, and B08Y86 were higher when compared to the DB-608 column. The higher recovery was caused

by an interference peak that coeluted with TCX on the DB-1701 column, therefore the %D between the two GC columns exceeded the 25% limit.

All of the other QC results were within the limits specified by 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 9/29/93
Nicole Roth
CLP Program Manager

for Wida Ang 9/29/93
Organics Manager

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y11

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R08

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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	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	2	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	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.

B08Y11

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R08

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.37	7	BJ

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y13

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R09

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08Y13

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R09

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.33	7	BJ

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y81

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R10

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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	3	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

9713508.1449

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000132
EPA SAMPLE NO.

B08Y81

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R10

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.37	7	BJ

9713508.1450

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y83

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-04A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R05

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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	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.

B08Y83

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-04A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R05

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.50	5	BJ

9713508.1452

000135

EPA SAMPLE NO.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

B08Y86

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R11

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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	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	3	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	5	J
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

9713508.1453

1E

000136

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B08Y86

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R11

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.37	10	BJ

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y88

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-06A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R12

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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	19	
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	5	J
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

9713508.1455

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08Y88

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-06A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R12

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.37	9	BJ

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y11

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I14

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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.

B08Y11

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I14

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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	4	BJ
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	2	J
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

9713508.1458

000141

EPA SAMPLE NO.

B08Y11

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I14

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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	5.83	6	BJ
2.	PROPANOIC ACID ISOMER	13.23	3	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y81

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-03B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I17

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

9713508.1460

1C

000143

EPA SAMPLE NO.

B08Y81

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-03B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I17

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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	2	BJ
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

EPA SAMPLE NO.

B08Y81

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-03B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I17

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y86

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-05B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I18

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

9713508.1463

000146

1C

EPA SAMPLE NO

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B08Y86

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-05B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I18

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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	2	BJ
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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08Y86

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-05B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I18

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9713508.1465

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y11

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-01E

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 07/30/93

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 08/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/14/93

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

EPA SAMPLE NO.

B08Y81

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-03C

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 07/30/93

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 08/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/14/93

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

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y86

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-05C

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 07/30/93

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 08/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/14/93

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 : 08-008

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : August 3, 1993

1.0 DESCRIPTION OF CASE :

Two water samples were analyzed for TCL Organics- Volatiles, Semivolatiles, and 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
B08Y21	A3-08-008-01A	V	WATER	0
B08Y21	A3-08-008-01B	SV	WATER	
B08Y21 MS	A3-08-008-01C	SV	WATER	
B08Y21 MSD	A3-08-008-01D	SV	WATER	
B08Y21	A3-08-008-01E	P	WATER	
B08Y21 MS	A3-08-008-01F	P	WATER	
B08Y21 MSD	A3-08-008-01G	P	WATER	
B08Y23	A3-08-008-02A	V	WATER	7
B08Y23 MS	A3-08-008-02B	V	WATER	7
B08Y23 MSD	A3-08-008-02C	V	WATER	7

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

All of the samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL WATER :

The samples were analyzed within the CLP SOW holding times. The samples were analyzed using a packed column wherein 2-Butanone coelutes with 1,2-Dichloroethane-d4, a system monitoring compound. 2-Butanaone was detected in the samples, however, the purity of the mass spectras were low. In order to confirm that 2-Butanone was present in each of the samples, the spectra for all three of the mass ions were included in the package.

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

TUNES :

All 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 original MS and MSD samples apparently were not spiked with the base/neutral matrix spike compounds at the time of extraction. Therefore, the MS and MSD samples were reextracted out of the required holding times and analyzed. All of the recoveries for the MS and MSD samples were within the limits specified by the CLP protocol. The results for the samples were all comparable.

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

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 09/7/93 and was analyzed according to the USEPA CLP SOW. The sequence was analyzed by single injection into a dual column system.

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

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

SAMPLE NOTES :

LOW LEVEL WATER :

The samples were extracted and analyzed within the CLP SOW holding times. The TCX and DCB surrogate recoveries in all of the samples were within the advisory QC limits with the exception of TCX on the DB-1701 column for sample B08Y21MS. However, the TCX recoveries on the DB-1701 column for all of the samples were higher in comparison to those on the DB-608 column. The higher recovery was caused by an interference peak that coeluted with TCX on the DB-1701 column, which resulted in the %D between the two GC columns exceeding the 25% limit.

Heptachlor was detected in sample B08Y21 at a concentration that was below the GC/MS detection limit and therefore could not be confirmed by GC/MS. To better quantitate the Heptachlor results, a 1:2 dilution was performed. The results for the dilution have been included in the package and have been reported as B08Y21DL.

Sample B08Y21MS had a matrix spike recovery for Heptachlor above the QC limit, whereas the MSD sample had a Heptachlor recovery within the limit. This has resulted in the %RPD for Heptachlor to be above the advisory QC limit. The difference in the Heptachlor recoveries have been attributed to the non-homogenous nature of the sample since the percent recoveries for all of the other spike compounds were comparable, as seen by their low %RPDs.

All of the other QC results were within the limits specified by 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 10/1/93
CLP Program Manager

Widayat 10/1/93
Wida Ang
Organics Manager

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y21

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R13

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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	16	
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	32	
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	3	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	
591-78-6	2-Hexanone	10	
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

9713508.1472
1E

EPA SAMPLE NO.

B08Y21

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R13

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.37	6	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y23

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R14

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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	12	
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	5	J
591-78-6	2-Hexanone	9	J
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

9713508.1474

000116

EPA SAMPLE NO.

B08Y23

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R14

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.37	11	BJ

9713508.1475
1B

EPA SAMPLE NO.

B08Y21

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30809I03

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/04/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/09/93

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

EPA SAMPLE NO.

B08Y21

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30809I03

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/04/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/09/93

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	3	J
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

9713508.1477

1F

000119

EPA SAMPLE NO.

B08Y21

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30809I03

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/04/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/09/93

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	10.73	7	J
2.	SUBSTITUTED PHENOL	22.88	6	J

9713508.1478

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y21

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-01E

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 08/03/93

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 08/04/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 09/08/93

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	0.95	
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

EPA SAMPLE NO.

B08Y21DL

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-01ED

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 08/03/93

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 08/04/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 09/08/93

Injection Volume: 1.00 (uL) Dilution Factor: 2.00

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	0.10	U
319-85-7	beta-BHC	0.10	U
319-86-8	delta-BHC	0.10	U
58-89-9	gamma-BHC (Lindane)	0.10	U
76-44-8	Heptachlor	0.86	D
309-00-2	Aldrin	0.10	U
1024-57-3	Heptachlor epoxide	0.10	U
959-98-8	Endosulfan I	0.10	U
60-57-1	Dieldrin	0.20	U
72-55-9	4,4'-DDE	0.20	U
72-20-8	Endrin	0.20	U
33213-65-9	Endosulfan II	0.20	U
72-54-8	4,4'-DDD	0.20	U
1031-07-8	Endosulfan sulfate	0.20	U
50-29-3	4,4'-DDT	0.20	U
72-43-5	Methoxychlor	1.0	U
53494-70-5	Endrin ketone	0.20	U
7421-36-3	Endrin aldehyde	0.20	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.10	U
8001-35-2	Toxaphene	10	U
12674-11-2	Aroclor-1016	2.0	U
11104-28-2	Aroclor-1221	4.0	U
11141-16-5	Aroclor-1232	2.0	U
53469-21-9	Aroclor-1242	2.0	U
12672-29-6	Aroclor-1248	2.0	U
11097-69-1	Aroclor-1254	2.0	U
11096-82-5	Aroclor-1260	2.0	U

9713508.1480

 Skinner&Sherman REPORT Work Order # S3-07-274

Received: 07/28/93 08/25/93 09:01:46

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

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 5
COMPANY TMA/NORCAL Hanford
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 N3-07-117
TAKEN By Client
TRANS Fed Ex
TYPE Water
P.O. # N3-07-117
INVOICE under separate cover

SAMPLE IDENTIFICATION	
01	B08Y91
02	B08YC5
03	B08YD0
04	B08YD5
04	B08YD5 DUPL
04	B08YD5 SPIKE
05	LCSW

TEST CODES and NAMES used on this workorder

NO3NO2 Nitrate/Nitrite

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc., retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Samples are not analyzed in accordance with New York State protocol unless indicated. 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.

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

9713508.1481

Received: 07/28/93 Results by Sample

SAMPLE ID B08Y91 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 07/23/93 Category WATER

NO3NO2 22.8
mg N/L

SAMPLE ID B08YC5 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 07/23/93 Category WATER

NO3NO2 23.8
mg N/L

SAMPLE ID B08YD0 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 07/23/93 Category WATER

NO3NO2 <0.25
mg N/L

SAMPLE ID B08YD5 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 07/23/93 Category WATER

NO3NO2 <0.25
mg N/L

SAMPLE ID B08YD5 DUPL SAMPLE # 04 FRACTIONS: B
Date & Time Collected 07/23/93 Category WATER

NO3NO2 <0.25
mg N/L

SAMPLE ID B08YD5 SPIKE SAMPLE # 04 FRACTIONS: C
Date & Time Collected 07/23/93 Category WATER

NO3NO2 1.90
mg N/L

SAMPLE ID LCSW SAMPLE # 05 FRACTIONS: A
Date & Time Collected not specified Category WATER

NO3NO2 1.98
mg N/L

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc., retains ownership of this report until associated submitted invoice is 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. Samples are not analyzed in accordance with New York State protocol unless indicated. 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.

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1-800-4 LAB TEST FAX (617) 890-3883

9713508.1482

Received: 07/28/93 Test Methodology

TEST CODE NO3NO2 NAME Nitrate/Nitrite

USEPA Methods for Chemical Analysis of Water and Wastes
(EPA-600/4-79-020), Method 353.2 (modified) -- Colorimetric, Automated
Cadmium Reduction

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. Samples are not analyzed in accordance with New York State protocol unless indicated. 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
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

9713508.1483

TMA/Skinner & Sherman Laboratories
Sample Login Sheet

Workorder 5307274 Client Hanford Nor Number/Type of Samples 4 water
Protocol CLP Turnaround 33 Day Cooler Temp: 3 °C, or N/A Cooler Yes/No
Custodian: B. Proulx Shipper & # FedEx SDG/Batch# N/A
Custody Seal: Present/Absent/Intact/Not Client Case# N307117
Purchase Order/Contract# N307117 Client Contact D. Sanchez
Tag#: Present/Absent/NA/(See COC) Chain of Custody: Present/Absent/NA,#

Sample Containers - Intact/Broken Comment:
Client Comment? Yes/No
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 7/28/93
List any date with paperwork/shipment problems & specify the problem:

N/A

	Client id	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	B084Y1	water	7/28/93	1.70	NO3NO2	
2	B084C5	↓	↓	1.55	↓	
3	B084D0			1.62		
4	B084D5			1.66	D.S ✓	
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

These samples are from a site known to have Radioactive Contamination: Yes ✓ No
These samples have detectable amounts of Radioactive Material: Yes No ✓

Subcontract: Yes/No, To: Date:

Reviewed Date

Corrected QP 7/28/93

* EPA/CLP required

039 Rev 1.7 Page: 85

9713508.1484

PAGE: 1 TMA/Norcal CHAIN OF CUSTODY ORD # N3-07-117

RCVD: 07/27/93 DUE: 08/26/93 07/27/93 12:47:38 KEEP: 08/26/94 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	B08YF1	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
02B-W	B08YC5	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
03B-W	B08YD0	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
04B-W	B08YD5	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
04F-W	B08YD5 MS	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
04G-W	B08YD5 DUP	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
04H-W	L C S		S&S	WH007	WH008	WH010	WH137	
05A-W	B08Y92	FILTERED	S&S	WH007	WH008	WH010		
06A-W	B08YC6	FILTERED	S&S	WH007	WH008	WH010		
07A-W	B08YD1	FILTERED	S&S	WH007	WH008	WH010		
08A-W	B08YD6	FILTERED	S&S	WH007	WH008	WH010		
08B-W	B08YD6 MS	FILTERED	S&S	WH007	WH008	WH010		
08C-W	B08YD6 DUP	FILTERED	S&S	WH007	WH008	WH010		
08D-W	L C S		S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
tyamamoto	7-27-93	SKINNER	7-27-93	Bark	7/28/93

040

9713508.1485

 Skinner&Sherman REPORT Work Order # S3-07-294

Received: 07/29/93 08/26/93 16:07:36

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

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 2
COMPANY TMA/NORCAL Hanford
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 N3-07-123
TAKEN By Client
TRANS Fed Ex
TYPE Water
P.O. # N3-07-123
INVOICE under separate cover

SAMPLE IDENTIFICATION

01 B08Y16
01 B08Y16 DUPL
01 B08Y16 SPIKE
02 LCSW

TEST CODES and NAMES used on this workorder

NO3NO2 Nitrate/Nitrite

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

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

9713508.1486

Received: 07/29/93 Results by Sample

SAMPLE ID B08Y16 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 07/23/93 Category WATER

NO3NO2 1.33
mg N/L

SAMPLE ID B08Y16 DUPL SAMPLE # 01 FRACTIONS: B
Date & Time Collected 07/23/93 Category WATER

NO3NO2 1.33
mg N/L

SAMPLE ID B08Y16 SPIKE SAMPLE # 01 FRACTIONS: C
Date & Time Collected 07/23/93 Category WATER

NO3NO2 3.23
mg N/L

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

NO3NO2 1.98
mg N/L

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

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

Received: 07/29/93

Test Methodology

TEST CODE NO3NO2 NAME Nitrate/Nitrite

USEPA Methods for Chemical Analysis of Water and Wastes
(EPA-600/4-79-020), Method 353.2 (modified) -- Colorimetric, Automated
Cadmium Reduction

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

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

9713508.1488

TMA/Skinner & Sherman Laboratories
Sample Login Sheet

Workorder S307394 Client Hanford Nor Number/Type of Samples 1 water
Protocol CLP Turnaround 33 DAY Cooler Temp: 3 °C,or N/A Cooler Yes/No
Custodian: B Provix Shipper & # Fed Ex SDG/Batch# N/A
Custody Seal: Present/Absent/Intact/Not Client Case# N307123
Purchase Order/Contract# N307123 Client Contact D. Sanchez
Tag#: Present/Absent/NA/(See COC) Chain of Custody: Present/Absent/NA,#

Sample Containers - Intact/Broken Comment:
Client Comment? Yes/No
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 7/29/93
List any date with paperwork/shipment problems & specify the problem:

N/A

	Client ID	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	B08416	water	7/29/93	1.79	DS NO3NO2	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

These samples are from a site known to have Radioactive Contamination: Yes ✓ No
These samples have detectable amounts of Radioactive Material: Yes No ✓

Subcontract: Yes/No, To: Date:

Reviewed Date

Complete BP 7/30/93

* EPA/CLP required

Rev 1.7

Page:

039

9713508.1489

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N3-07-123

RCVD: 07/28/93 DUE: 09/08/93 07/28/93 14:12:55 KEEP: 09/08/94 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B	BOBY16	UNFILTERED SAS	WH007	WH008	WH010	WH011	WH137
01F	BOBY16 MS	UNFILTERED SAS	WH007	WH008	WH010	WH011	WH137
01G	BOBY16 DUP	UNFILTERED SAS	WH007	WH008	WH010	WH011	WH137
01H	GC-LCS	SAS	WH007	WH008	WH010	WH137	
02A	BOBY17	FILTERED SAS	WH007	WH008	WH010		
02B	BOBY17 MS	FILTERED SAS	WH007	WH008	WH010		
02C	BOBY17 DUP	FILTERED SAS	WH007	WH008	WH010		
02D	GC-LCS	SAS	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Neil M Hasselt	7-28-93	Skinner & Sherman		Barb Pane	7/29/93

040

9713508.1490

Received: 08/03/93 Results by Sample

SAMPLE ID B08Y11 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 07/28/93 Category WATER

NO3NO2 4.52
mg N/L

SAMPLE ID B08Y81 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 07/28/93 Category WATER

NO3NO2 13.8
mg N/L

SAMPLE ID B08Y86 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 07/28/93 Category WATER

NO3NO2 26.6
mg N/L

SAMPLE ID B08Y86 DUPL SAMPLE # 03 FRACTIONS: B
Date & Time Collected 07/28/93 Category WATER

NO3NO2 27.3
mg N/L

SAMPLE ID B08Y86 SPIKE SAMPLE # 03 FRACTIONS: C
Date & Time Collected 07/28/93 Category WATER

NO3NO2 48.5
mg N/L

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

NO3NO2 2.02
mg N/L

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

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

9713508.1491

 Skinner&Sherman REPORT Work Order # S3-08-013

Received: 08/03/93 09/02/93 09:43:06

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

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 4
COMPANY TMA/NORCAL Hanford
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 N3-07-134
TAKEN By Client
TRANS Fed Ex
TYPE Water
P.O. # N3-07-134
INVOICE under separate cover

SAMPLE IDENTIFICATION		TEST CODES and NAMES used on this workorder	
01	B08Y11	NO3NO2	Nitrate/Nitrite
02	B08Y81		
03	B08Y86		
03	B08Y86 DUPL		
03	B08Y86 SPIKE		
04	LCSW		

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. Samples are not analyzed in accordance with New York State protocol unless indicated. 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
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

9713508.1492

Received: 08/03/93 Test Methodology

TEST CODE NO3NO2 NAME Nitrate/Nitrite

USEPA Methods for Chemical Analysis of Water and Wastes
(EPA-600/4-79-020), Method 353.2 (modified) -- Colorimetric, Automated
Cadmium Reduction

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

9713508.1493

TMA/Skinner & Sherman Laboratories
Sample Login Sheet

Workorder 5308013 Client HANFORD NER Number/Type of Samples 3 water
Protocol CLP Turnaround 33 DAY Cooler Temp: 4 °C, or N/A Cooler Yes/No
Custodian: B PROULX Shipper & # Fed Ex SDG/Batch#
Custody Seal: Present/Absent/Intact/Not Client Case# N307134
Purchase Order/Contract# N307134 Client Contact D. SANCHEZ
Tag#: Present/Absent/NA/(See COC) Chain of Custody: Present/Absent/NA,#

Sample Containers - Intact/Broken Comment:
Client Comment? Yes/No
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 8/3/93
List any date with paperwork/shipment problems & specify the problem:

N/A

	Client ID	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	B08411	water	8/3/93	1.47	NO_3N_{02}	
2	B08481	↓	↓	1.45	↓	
3	B08486	↓	↓	1.41	DS ↓	
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

These samples are from a site known to have Radioactive Contamination: Yes ✓ No
These samples have detectable amounts of Radioactive Material: Yes No ✓

Subcontract: Yes/No, To: Date:

Reviewed Date

8/3/93 BP
Comp Use

* EPA/CLP required

127

Rev 1.7

Page: 11

9213508_1494

-PAGE:1 * TMA Norcal CHAIN OF CUSTODY ORD # N3-07-134

RCVD: 07/30/93 DUE: 09/03/93 07/30/93 16:00:23 KEEP: 09/03/94 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SV and CATEGORY				
01B-W	B08Y11	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
02B-W	B08Y81	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
03B-W	B08Y86	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
03F-W	B08Y86 MS	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
03G-W	B08Y86 DUP	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
03H-W	L C S		S&S	WH007	WH008	WH010	WH137	
04A-W	B08Y12	FILTERED	S&S	WH007	WH008	WH010		
05A-W	B08Y82	FILTERED	S&S	WH007	WH008	WH010		
06A-W	B08Y87	FILTERED	S&S	WH007	WH008	WH010		
06B-W	B08Y87 MS	FILTERED	S&S	WH007	WH008	WH010		
06C-W	B08Y87 DUP	FILTERED	S&S	WH007	WH008	WH010		
06D-W	L C S		S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
eyamamoto	8-2-93	Skinner	8-2-93	Bart Prno	8/3/93

028

9713508.1495

 Skinner&Sherman REPORT Work Order # S3-08-028

Received: 08/04/93 09/02/93 09:46:12

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

ATTEN Dan Steurmer

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

CLIENT HANFORD NOR SAMPLES 2
COMPANY TMA/NORCAL Hanford
FACILITY Richmond, CA

WORK ID N3-08-009
TAKEN By Client
TRANS Fed Ex
TYPE Water
P.O. # N3-08-009
INVOICE under separate cover

SAMPLE IDENTIFICATION

01 B08Y21
01 B08Y21 DUPL
01 B08Y21 SPIKE
02 LCSW

TEST CODES and NAMES used on this workorder

NO3NO2 Nitrate/Nitrite

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

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

9713508.1496

Received: 08/04/93 Results by Sample

SAMPLE ID B08Y21 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 07/30/93 Category WATER

NO3NO2 4.75
mg N/L

SAMPLE ID B08Y21 DUPL SAMPLE # 01 FRACTIONS: B
Date & Time Collected 07/30/93 Category WATER

NO3NO2 4.59
mg N/L

SAMPLE ID B08Y21 SPIKE SAMPLE # 01 FRACTIONS: C
Date & Time Collected 07/30/93 Category WATER

NO3NO2 13.9
mg N/L

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

NO3NO2 2.02
mg N/L

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

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

9713508.1497

Received: 08/04/93 Test Methodology

TEST CODE NO3NO2 NAME Nitrate/Nitrite

USEPA Methods for Chemical Analysis of Water and Wastes
(EPA-600/4-79-020), Method 353.2 (modified) -- Colorimetric, Automated
Cadmium Reduction

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

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

9713508.1498

TMA/Skinner & Sherman Laboratories
Sample Login Sheet

Workorder 5308028 Client HANFORD DOE Number/Type of Samples 1 water
Protocol CLP Turnaround 33 DAY Cooler Temp: 2 °C, or N/A Cooler Yes/No
Custodian: B. PROUX Shipper & # Fed Ex SDG/Batch# N/A
Custody Seal: Present/Absent/Intact/Not Client Case# N308009
Purchase Order/Contract# N308009 Client Contact D SANCHEZ
Tag#: Present/Absent/NA/(See COC) Chain of Custody: Present/Absent/NA,#

Sample Containers - Intact/Broken Comment:
Client Comment? Yes/No
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 8/4/93
List any date with paperwork/shipment problems & specify the problem:

N/A

	Client ID	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	B08921	water	8/4/93	1.31	D.S NO3 NO2	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

These samples are from a site known to have Radioactive Contamination: Yes ✓ No
These samples have detectable amounts of Radioactive Material: Yes No ✓

Subcontract: Yes/No, To: Date:

Reviewed Date

Complete BS 8/4/93

* EPA/CLP required

Rev 1.7

Page: 27

~~28~~ 27

9713508.1499

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N3-08-009

RCVD: 08/03/93 DUE: 09/07/93 08/03/93 13:30:00 KEEP: 09/07/94 DISP: S

DASH	SAMPLE IDENTIFICATION			STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	B08Y21		UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
01F-W	B08Y21	MS	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
01G-W	B08Y21	DUP	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
01H-W	LCS			S&S	WH007	WH008	WH010	WH137	
02A-W	B08Y22		FILTERED	S&S	WH007	WH008	WH010		
02B-W	B08Y22	MS	FILTERED	S&S	WH007	WH008	WH010		
02C-W	B08Y22	DUP	FILTERED	S&S	WH007	WH008	WH010		
02D-W	LCS			S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	8-3-93	Skinner	8-3-93	Barb Prunp	8/4/93

~~A57~~ 28

9713508.1500

TMA
Thermo Analytical Inc.

TMA/ERG
525 Avis Drive, Suite 7
Ann Arbor, MI 48108

(313) 662-3104
(313) 662-3344 (Fax)

SEP 1993
RECEIVED
SDLA

Federal Express:7290259244

September 16, 1993

Quality Control Narrative

Scope

This report contains one Delivery Order. Six water samples were received at TMA/ERG from TMA/NORCAL on July 28, 1993. Upon arrival the sample cooler temperature measured at 4 deg.C. These samples were analyzed for Total Organic Halogens and Total Organic Carbon based on USEPA methods. Samples received with Work Order N3-07-117 are enclosed in this package. The TMA/ERG WO# is E3-07-141. Methodology: The samples were prepared, analyzed and reported in accordance with the Westinghouse Hanford Program Statement of Work MBH-SVV-069262 March 5, 1992. The following is a list of methodologies used:

Analyte	Method/Description
TOC	415.1 Total Organic Carbon (TMA/ERG SOP WC022)
TOX	9022 Total Organic Halides by Neutron Activation (TMA/ERG SOP NUC03)

Instrument ID Numbers	Serial Numbers
OI Model 700 TOC Analyzer	H224069
NA Multi Channel Analyzer	Not Available

Discussion

The TOX and TOC samples were prepared and analyzed according to protocol. The Quality Control requirements have been met for the sample without exception.
If there are any questions concerning this package please do not hesitate to call.

Respectfully submitted,

TMA/Environmental Research Group

Mark B. Ruwe
QA Officer

RECORD COPY

5/16/96 M.H.

COVER PAGE - CLASSICALS ANALYSIS DATA PACKAGE

Lab Name TMA/ERG #WO No. E3-07-141

Episode No. N3-07-117 SOW No. MBH-SVV-069262 SOW /Rev. Date March 5, 1992

TMA Sample No.	Lab Sample ID
B08Y94	E3-07-141-01A
B08YC8	E3-07-141-02A
B08YD3	E3-07-141-03A
B08YD8	E3-07-141-04A,B
B08YD8MS	E3-07-141-04C,D
B08YD8DUP	E3-07-141-04F,E

COMMENTS: Narrative Report is attached. Yes X No

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the narrative report. Release of the data contained in this hardcopy data package(and in the data submitted on magnetic media, if data is submitted on magnetic media), has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Mark B. Ruwe Name: Mark B. Ruwe

Date: September 16, 1993 Title: QA Officer

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08Y94

CASE NO.: N3-07-117

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 28-Jul-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	1.7	1	02-Aug-93
ORGANIC BROMIDE	0.03	0.01	30-Jul-93
ORGANIC CHLORIDE	<0.01	0.01	30-Jul-93
ORGANIC IODIDE	<0.01	0.01	30-Jul-93

COMMENTS:

9713508.1503

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08YC8

CASE NO.: N3-07-117

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 28-Jul-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	1.7	1	02-Aug-93
ORGANIC BROMIDE	0.05	0.01	30-Jul-93
ORGANIC CHLORIDE	<0.01	0.01	30-Jul-93
ORGANIC IODIDE	<0.01	0.01	30-Jul-93

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.
LAB SAMPLE ID: B08YD3
CASE NO.: N3-07-117
Work ID: 100-FR-3
Matrix: WATER
Receipt Date: 28-Jul-93
% Solids: NA
Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	<1	1	02-Aug-93
ORGANIC BROMIDE	<0.01	0.01	30-Jul-93
ORGANIC CHLORIDE	<0.01	0.01	30-Jul-93
ORGANIC IODIDE	<0.01	0.01	30-Jul-93

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08YD8

CASE NO.: N3-07-117

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 28-Jul-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	<1	1	02-Aug-93
ORGANIC BROMIDE	<0.01	0.01	30-Jul-93
ORGANIC CHLORIDE	<0.01	0.01	30-Jul-93
ORGANIC IODIDE	<0.01	0.01	30-Jul-93

PAGE 1 [illegible] CHAIN OF CUSTODY ORD # N3-07-117
RCVD: [illegible] DAE: 08/26/93 07/27/93 12:48:56 KEEP: 08/26/94 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS For FRACTIONS with work in DEPT: BU and CATEGORY	
13A-W	B03-03	EFG	WH113	WH116
14A-W	B03-03	EFG	WH113	WH116
15A-W	B03-03	EFG	WH113	WH116
16A-W	B03-03	EFG	WH113	WH116
16B-W	B03-03 PB	EFG	WH113	WH116
16C-W	B03-03 DLF	EFG	WH113	WH116

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Elby Yamamoto	7-27-93	ERG	7-27-93	Christine Rauch	7-28-93

Cooler at 4°C
pH for all the samples are <2

AIRBILL
PACKAGE
TRACKING NUMBER 7290257244

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

7290257244

RECIPIENT'S COPY

1 From (Your Name) Please Print: SAMPLE

Company

Street Address

City

State

ZIP Required

Date

Your Phone Number (Very Important)

Department/Floor No.

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

Recipient's Phone Number (Very Important)

Department/Floor No.

Company: TMA / ERG

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 425 AVIS DRIVE

City: ANN ARBOR

State: MI

ZIP Required: 48108

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

Street Address

City

State

ZIP Required

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

2241-6406

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

3 SERVICES (Check only one box)

4

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

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

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY*
* Economy Letter rate not available. Minimum charge: One pound economy rate

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

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

5 DELIVERY AND SPECIAL HANDLING (Check services required)

1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [X] DELIVER WEEKDAY
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required. Dry Ice & UN 1845. x kg. 904 III
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	21	
Total	Total	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.
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party
[ ] Chg. To Del.
[ ] Chg. To Hold

Street Address

State

Zip

City

Received By:
X

Date/Time Received

FedEx Employee Number

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

REVISION DATE 11/92
PART #137204 FXEM 3/93
FORMAT #155
155
PRINTED IN U.S.A.

9713508.1507

22

TMA
Thermo Analytical Inc.

TMA/ERG
525 Avis Drive, Suite 7
Ann Arbor, MI 48108

(313) 662-3104
(313) 662-3344 (Fax)

9713500.1509

RECORD COPY

OCT 1996 RECEIVED SOLA

Federal Express:7290259211

September 17, 1993

Quality Control Narrative

Scope

This report contains one Delivery Order. Three water samples were received at TMA/ERG from TMA/NORCAL on July 29, 1993. Upon arrival the sample cooler temperature measured at 4 deg.C. These samples were analyzed for Total Organic Halogens and Total Organic Carbon based on USEPA methods. Samples received with Work Order N3-07-123 are enclosed in this package. The TMA/ERG WO# is E3-07-149. Methodology: The samples were prepared, analyzed and reported in accordance with the Westinghouse Hanford Program Statement of Work MBH-SVV-069262 March 5, 1992. The following is a list of methodologies used:

Analyte	Method/Description
TOC	415.1 Total Organic Carbon (TMA/ERG SOP WC022)
TOX	9022 Total Organic Halides by Neutron Activation (TMA/ERG SOP NUC03)

Instrument ID Numbers	Serial Numbers
OI Model 700 TOC Analyzer	H224069
NA Multi Channel Analyzer	Not Available

Discussion

The TOX and TOC samples were prepared and analyzed according to protocol. The Quality Control requirements have been met for the sample without exception.
If there are any questions concerning this package please do not hesitate to call.

Respectfully submitted,

TMA/Environmental Research Group

Mark B. Ruwe

Mark B. Ruwe
QA Officer

i 5/16/96 M.H.

9713508.1509

COVER PAGE - CLASSICALS ANALYSIS DATA PACKAGE

Lab Name TMA/ERG #WO No. E3-07-149

Episode No. N3-07-123 SOW No. MBH-SVV-069262 SOW /Rev.Date March 5, 1992

TMA Sample No.	Lab Sample ID
B08Y19	E3-07-149-01A,B
B08Y19 MS	E3-07-149-01C,D
B08Y19 DUP	E3-07-149-03E,F

COMMENTS: Narrative Report is attached. Yes X No

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the narrative report. Release of the data contained in this hardcopy data package(and in the data submitted on magnetic media, if data is submitted on magnetic media), has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Mark B. Ruwe Name: Mark B. Ruwe

Date: September 17, 1993 Title: QA Officer

01

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08Y19

CASE NO.: N3-07-123

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 29-Jul-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	<1	1	02-Aug-93
ORGANIC BROMIDE	<0.01	0.01	05-Aug-93
ORGANIC CHLORIDE	<0.01	0.01	05-Aug-93
ORGANIC IODIDE	<0.01	0.01	05-Aug-93

COMMENTS:

PAGE 1 TMA/ERG 3508.1511 CHAIN OF CUSTODY ORD # N3-07-123

RCVD: 07/28/93 DUE: 09/06/93 07/28/93 14:35:50 KEEP: 09/08/94 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY	
04A-W	BCE-1F	ERG	WH113	WH116
04B-W	BCE-1F MS	ERG	WH113	WH116
04C-W	BCE-1F DUP	ERG	WH113	WH116

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Kermit Blum	7-28-93	TMA/ERG		Christe Park	7-28-93

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER 7290259211

7290259211

RECIPIENT'S COPY

1 Date 7-28-93

From (Your Name) Please Print: SAMPLE CONTROL
Your Phone Number (Very Important): 610-935-2033
Company:
Department/Floor No.:
Street Address: [illegible] LIGHT AVE
City: [illegible] State: [illegible] ZIP Required: [illegible]

2 To (Recipient's Name) Please Print: SAMPLE CONTROL
Recipient's Phone Number (Very Important): [illegible]-2104
Company: THERMO ANALYTICAL [illegible]
Department/Floor No.:
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes): 525 AVIS DRIVE, SUITE [illegible]
City: ANN ARBOR State: MI ZIP Required: 48108

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2340-6406

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] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [1] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

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

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY*
* Economy Letter rate not available. Minimum charge: One pound economy rate

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

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

5 DELIVERY AND SPECIAL HANDLING (Check services required)
1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [X] DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [ ]
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN 1845, X ..... kg. 904 III
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1		
Total 1	Total 10	Total

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

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

7 Release Signature:

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

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

REVISION DATE 11/92
PART #137204 FXEM 3/93
FORMAT #155
155
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9713508.1512

19

9713508.1513

TMA
Thermo Analytical Inc.

TMA/ERG
525 Avis Drive, Suite 7
Ann Arbor, MI 48108

(313) 662-3104
(313) 662-3344 (Fax)

RECORD COPY

OCT 1993
RECEIVED
SDLA

Federal Express:7290261101

September 20, 1993

Quality Control Narrative

Scope

This report contains one Delivery Order. Three water samples were received at TMA/ERG from TMA/NORCAL on August 2, 1993. Upon arrival the sample cooler temperature measured at 4 deg.C. These samples were analyzed for Total Organic Halogens and Total Organic Carbon based on USEPA methods. Samples received with Work Order N3-07-134 are enclosed in this package. The TMA/ERG WO# is E3-08-004. Methodology: The samples were prepared, analyzed and reported in accordance with the Westinghouse Hanford Program Statement of Work MBH-SVV-069262 March 5, 1992. The following is a list of methodologies used:

Analyte	Method/Description
TOC	415.1 Total Organic Carbon (TMA/ERG SOP WC022)
TOX	9022 Total Organic Halides by Neutron Activation (TMA/ERG SOP NUC03)

Instrument ID Numbers	Serial Numbers
OI Model 700 TOC Analyzer	H224069
NA Multi Channel Analyzer	Not Available

Discussion

The TOX and TOC samples were prepared and analyzed according to protocol. The Quality Control requirements have been met for the sample without exception.
If there are any questions concerning this package please do not hesitate to call.

Respectfully submitted,

TMA/Environmental Research Group

Mark B. Ruwe

Mark B. Ruwe
QA Officer

i 5/16/96 M.H.

COVER PAGE - CLASSICALS ANALYSIS DATA PACKAGE

Lab Name TMA/ERG #WO No. E3-08-004

Episode No. N3-07-134 SOW No. MBH-SVV-069262 SOW /Rev.Date March 5, 1992

TMA Sample No.	Lab Sample ID
B08Y14	E3-08-004-01A,B
B08Y84	E3-08-004-02A,B
B08Y89	E3-08-004-03A,B
B08Y89 MS	E3-08-004-03C,D
B08Y89 DUP	E3-08-004-03E,F

COMMENTS: Narrative Report is attached. Yes X No

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the narrative report. Release of the data contained in this hardcopy data package(and in the data submitted on magnetic media, if data is submitted on magnetic media), has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Mark B. Ruwe Name: Mark B. Ruwe

Date: September 20, 1993 Title: QA Officer

9713508.1515

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08Y14

CASE NO.: N3-07-134

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 02-Aug-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	<1	1	02-Aug-93
ORGANIC BROMIDE	<0.01	0.01	05-Aug-93
ORGANIC CHLORIDE	<0.01	0.01	05-Aug-93
ORGANIC IODIDE	<0.01	0.01	05-Aug-93

COMMENTS:

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08Y84

CASE NO.: N3-07-134

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 02-Aug-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	<1	1	02-Aug-93
ORGANIC BROMIDE	<0.01	0.01	05-Aug-93
ORGANIC CHLORIDE	<0.01	0.01	05-Aug-93
ORGANIC IODIDE	<0.01	0.01	05-Aug-93

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08Y89

CASE NO.: N3-07-134

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 02-Aug-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	2.0	1	02-Aug-93
ORGANIC BROMIDE	<0.01	0.01	05-Aug-93
ORGANIC CHLORIDE	<0.01	0.01	05-Aug-93
ORGANIC IODIDE	<0.01	0.01	05-Aug-93

PAGE 1 9213608.1518 CHAIN OF CUSTODY ORD # N3-07-134

RCVD: 07/30/93 DUE: 09/03/93 07/30/93 15:43:11 KEEP: 09/03/94 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: 90 and CATEGORY	
10A-w	010914	ER9	WH113	WH116
11A-w	010934	ER9	WH113	WH116
12A-w	010969	ER9	WH113	WH116
12B-w	010969 MS	ER9	WH113	WH116
12C-w	010969 DUP	ER9	WH113	WH116

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	7-30-93	ERG	7-30-93	Christine Paul	8-2-93

Cooler at 4°c

21

FEDERAL

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7290261101

309SM 7290261101

RECIPIENT'S COPY

Date 7/20/93

From (Your Name) Please Print: SAMPLE CONTROL
Your Phone Number (Very Important): 010-P35-2633
Company: T[illegible] OPTICAL
Department/Floor No.
Street Address: 2030 [illegible]HT AVE
City: [illegible] State: CA ZIP Required: 9 4 8 0 4

To (Recipient's Name) Please Print: SAMPLE CONTROL
Recipient's Phone Number (Very Important): (313) 662-3104
Company: TMA/ERG
Department/Floor No.: SUITE 7
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes): 525 AVIS DRIVE
City: ANN ARBOR State: MI ZIP Required: 48108

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice): 2340-5405

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: 11 [ ] OTHER PACKAGING; 16 [ ] FEDEX LETTER; 12 [ ] FEDEX PAK; 13 [ ] FEDEX BOX; 14 [ ] FEDEX TUBE
Standard Overnight: 51 [ ] OTHER PACKAGING; 56 [ ] FEDEX LETTER; 52 [ ] FEDEX PAK; 53 [ ] FEDEX BOX; 54 [ ] FEDEX TUBE
Economy Two-Day: 30 [ ] ECONOMY
Government Overnight: 15 [ ] GOVT LETTER; 11 [ ] GOVT PACKAGE
Freight Service: 70 [ ] OVERNIGHT FREIGHT; 30 [ ] TWO-DAY FREIGHT

DELIVERY AND SPECIAL HANDLING (Check services required)

1 [ ] HOLD FOR PICK-UP
2 [ ] DELIVER WEEKDAY
3 [ ] DELIVER SATURDAY
4 [ ] DANGEROUS GOODS
5 [ ]
6 [ ] DRY ICE
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP
10 [ ]
12 [ ] HOLIDAY DELIVERY

PACKAGES	WEIGHT	VALUE
1	16	
Total	Total	Total

DIM SHIPMENT (Chargeable Weight) L x W x H

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

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

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

REVISION DATE 11/92 PART #137204 FXEN 399 FORM# 2155
155
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7290261101

9713508.1520

TMA
Thermo Analytical Inc.

TMA/ERG
525 Avis Drive, Suite 7
Ann Arbor, MI 48108

(313) 662-3104
(313) 662-3344 (Fax)

OCT 1993
RECEIVED
SDLA

RECORD COPY

Federal Express:7290261134

September 20, 1993

Quality Control Narrative

Scope

This report contains one Delivery Order. Three water samples were received at TMA/ERG from TMA/NORCAL on August 4, 1993. Upon arrival the sample cooler temperature measured at 4 deg.C. These samples were analyzed for Total Organic Halogens and Total Organic Carbon based on USEPA methods. Samples received with Work Order N3-08-009 are enclosed in this package. The TMA/ERG WO# is E3-08-013. Methodology: The samples were prepared, analyzed and reported in accordance with the Westinghouse Hanford Program Statement of Work MBH-SVV-069262 March 5, 1992. The following is a list of methodologies used:

Analyte	Method/Description
TOC	415.1 Total Organic Carbon (TMA/ERG SOP WC022)
TOX	9022 Total Organic Halides by Neutron Activation (TMA/ERG SOP NUC03)

Instrument ID Numbers	Serial Numbers
OI Model 700 TOC Analyzer	H224069
NA Multi Channel Analyzer	Not Available

Discussion

The TOX and TOC samples were prepared and analyzed according to protocol. The Quality Control requirements have been met for the sample without exception.
If there are any questions concerning this package please do not hesitate to call.

Respectfully submitted,

TMA/Environmental Research Group

Mark B. Ruwe

Mark B. Ruwe
QA Officer

i 5/16/96 M.H.

COVER PAGE - CLASSICALS ANALYSIS DATA PACKAGE

Lab Name TMA/ERG #WO No. E3-08-013

Episode No. N3-08-009 SOW No. MBH-SVV-069262 SOW /Rev. Date March 5, 1992

TMA Sample No.	Lab Sample ID
B08Y24	E3-08-013-01A,B
B08Y24MS	E3-08-013-01C,D
B08Y24DUP	E3-08-013-01E,F

COMMENTS: Narrative Report is attached. Yes X No

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the narrative report. Release of the data contained in this hardcopy data package(and in the data submitted on magnetic media, if data is submitted on magnetic media), has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Mark B. Ruwe Name: Mark B. Ruwe

Date: September 20, 1993 Title: QA Officer

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08Y24

CASE NO.: N3-08-009

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 04-Aug-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	<1	1	09-Aug-93
ORGANIC BROMIDE	<0.01	0.01	05-Aug-93
ORGANIC CHLORIDE	<0.01	0.01	05-Aug-93
ORGANIC IODIDE	<0.01	0.01	05-Aug-93

PAGE 1 TM9X:13508.1523 CHAIN OF CUSTODY ORD # N3-08-009

RCVD: 08/03/93 DUE: 09/07/93 08/03/93 13:44:11 KEEP: 09/07/94 DISP: S

DASH	SAMPLE IDENTIFICATION		FILTERED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY	
044-W	B08-24		EP3	WH113	WH116
049-W	B09-24	MS	EP3	WH113	WH116
040-W	B10-24	DUP	EP3	WH113	WH116

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
E. Yarnamoto	8-3-93	ERG	8-3-93	Christine Paulo	8-4-93

Cooler at 4°C all samples are <2

FEDERAL

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7290261134

7290261134

Date 8-3-93

RECIPIENT'S COPY

From (Your Name) Please Print: SAMPLE CONTROL
Your Phone Number (Very Important): 010-235-2633
Company: A /NOPCAL
Department/Floor No.:
Street Address: 20 B WRIGHT AVE
City: RICHMOND State: CA ZIP Required: 94804

To (Recipient's Name) Please Print: SAMPLE CONTROL
Recipient's Phone Number (Very Important): (313) 662-3104
Company: TMA/ERG
Department/Floor No.: SUITE 7
Exact Street Address (No Cities Called to P.O. Boxes or P.O. Zip Codes): 535 AVIS DRIVE
City: ANN ARBOR State: MI ZIP Required: 48108

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice): 7340-6606

IF HOLD FOR PICK-UP, Print FEDEX Address here: 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: 11 [X] OTHER PACKAGING; 16 [ ] FEDEX LETTER*; 12 [ ] FEDEX PAK*; 13 [ ] FEDEX BOX; 14 [ ] FEDEX TUBE

Standard Overnight: 51 [ ] OTHER PACKAGING; 56 [ ] FEDEX LETTER*; 52 [ ] FEDEX PAK*; 53 [ ] FEDEX BOX; 54 [ ] FEDEX TUBE

Economy Two-Day: 33 [ ] ECONOMY**

Government Overnight: 46 [ ] GOVT LETTER; 41 [ ] GOVT PACKAGE

Freight Service: 70 [ ] OVERNIGHT FREIGHT**; 80 [ ] TWO-DAY FREIGHT**

*Declared Value Limit $500. **Call for Delivery Schedule.

DELIVERY AND SPECIAL HANDLING (Check services required)

1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [X] DELIVER WEEKDAY
3 [ ] DELIVER SATURDAY (Extra charge) [ ]
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE (Dangerous Goods Shipper's Declaration not required) By Wt. ____ X ____ Lg. ____ lb.
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
[ ]
12 [ ] HOLIDAY DELIVERY (If available) (Extra charge)

Packages	Weight	Total Declared Value Charge
1		
Total 1	Total 12	Total

DIM SHIPMENT (Chargeable Weight) [ ] ____ lbs.

L x W x H

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

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

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

REVISED DATE 11/92 Form 3.00 PRINTED IN USA

055

19

9713508.1525

TMA
Thermo Analytical Inc.

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

RECORD COPY

SEP 1993
RECEIVED
SDLA

August 26, 1993

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

Quality Control Narrative

Scope
Four (4) water samples were submitted to TMA/Skinner & Sherman Laboratories, Inc. on July 28, 1993 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 S307273.

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.

Steven Provencal

Steven R. Provencal
Lead Chemist

5/16/96 M.H.

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y91

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y91

Matrix (soil/water): WATER Lab Sample ID: 07273-01S

Level (low/med): LOW Date Received: 07/28/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	4.8	B		P
7440-39-3	Barium	48.0	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	100000			P
7440-47-3	Chromium	9.0	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	3.2	B		P
7439-89-6	Iron	38.0	B		P
7439-92-1	Lead	2.8	B		P
7439-95-4	Magnesium	26000			P
7439-96-5	Manganese	1.6	B		P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	8230			P
7782-49-2	Selenium	5.0	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	33300			P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	5.8	B		P
7440-66-6	Zinc	4.2	B		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B08YC5

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y91

Matrix (soil/water): WATER Lab Sample ID: 07273-02S

Level (low/med): LOW Date Received: 07/28/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	3.4	B		P
7440-39-3	Barium	44.8	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	99500			P
7440-47-3	Chromium	8.7	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	49.2	B		P
7439-92-1	Lead	2.6	B		P
7439-95-4	Magnesium	25800			P
7439-96-5	Manganese	1.3	B		P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	8130			P
7782-49-2	Selenium	4.0	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	32900			P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	5.5	B		P
7440-66-6	Zinc	4.1	U		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713508.1528

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08YD0

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y91

Matrix (soil/water): WATER Lab Sample ID: 07273-03S

Level (low/med): LOW Date Received: 07/28/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	1.7	U		P
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	43.2	B		P
7440-47-3	Chromium	1.8	U		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	11.4	B		P
7439-92-1	Lead	3.5			P
7439-95-4	Magnesium	34.9	B		P
7439-96-5	Manganese	0.60	U		P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	85.5	U		P
7782-49-2	Selenium	2.9	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	143	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	2.3	U		P
7440-66-6	Zinc	4.1	U		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B08YD5

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y91

Matrix (soil/water): WATER Lab Sample ID: 07273-04S

Level (low/med): LOW Date Received: 07/28/93

% 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	26.1	B		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	1.7	U		P
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	35.7	U		P
7440-47-3	Chromium	1.8	U		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	30.3	B		P
7439-92-1	Lead	2.1	B		P
7439-95-4	Magnesium	91.8	B		P
7439-96-5	Manganese	0.73	B		P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	85.5	U		P
7782-49-2	Selenium	2.5	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	85.5	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	2.3	U		P
7440-66-6	Zinc	4.1	U		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713508.1530

Sampled 7/23/93

TMA/Skinner & Sherman Laboratories
Sample Login Sheet

Workorder S307273 Client Hanford Nor Number/Type of Samples 8 water
Protocol CLP Turnaround 33 DAY Cooler Temp: 3 °C, or N/A Cooler Yes/No
Custodian: BProuix Shipper & # Fed Ex SDG/Batch# N/A
Custody Seal: Present/Absent/Intact/Not Client Case# N307117
Purchase Order/Contract# N307117 Client Contact D. Sanchez
Tag#: Present/Absent/NA/(See COC) Chain of Custody: Present/Absent/NA,#

Sample Containers - Intact/Broken Comment:
Client Comment? Yes/No
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 7/28/93
List any date with paperwork/shipment problems & specify the problem:

N/A

	Client id	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	BOBY91	water	7/28/93	1.80 / 12.39	TM / CN	
2	BOBYC5	↓	↓	1.77 / 12.41	↓	
3	BOBYD0	↓	↓	1.84 / 12.40	↓	
4	BOBYD5	✓	↓	1.88 / 12.37	D.S ↓	
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

These samples are from a site known to have Radioactive Contamination: Yes ✓ No
These samples have detectable amounts of Radioactive Material: Yes No ✓

Subcontract: Yes/No, To: Date:

185

Reviewed Date

Comp ✓ BP 7/28/93

* EPA/CLP required

Rev 1.7

Page:

9713508.1531

PAGE 1 TRANSMITTAL CHAIN OF CUSTODY ORD # N3-07-117

RCVD: 07/27/93 DUE: 08/26/93 07/27/93 12:47:38 KEEP: 08/26/94 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	B0BY91	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
02B-W	B0BYC5	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
03B-W	B0BYD0	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
04B-W	B0BYD5	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
04F-W	B0BYD5 MS	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
04G-W	B0BYD5 DUP	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
04H-W	L C S		S&S	WH007	WH008	WH010	WH137	
05A-W	B0BY92	FILTERED	S&S	WH007	WH008	WH010		
06A-W	B0BYC6	FILTERED	S&S	WH007	WH008	WH010		
07A-W	B0BYD1	FILTERED	S&S	WH007	WH008	WH010		
08A-W	B0BYD6	FILTERED	S&S	WH007	WH008	WH010		
08B-W	B0BYD6 MS	FILTERED	S&S	WH007	WH008	WH010		
08C-W	B0BYD6 DUP	FILTERED	S&S	WH007	WH008	WH010		
08D-W	L C S		S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
tyamamoto	7-27-93	SKINNER	7-27-93	Bach	7/28/93

9713508.1532

TMA
Thermo Analytical Inc.

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

RECORD COPY

SEP 1993
RECEIVED
SDLA

August 26, 1993

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

Quality Control Narrative

Scope
Five (5) water samples were submitted to TMA/Skinner & Sherman Laboratories, Inc. on July 28, 1993 from TMA/Norcal. The samples were analyzed for the USEPA CLP metals. The analysis was performed under TMA/Skinner and Sherman work order S307275.

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.

Steven R. Provencal

Steven R. Provencal
Lead Chemist

1 5/16/96 M.H.

9713508.1533

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y92

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y92

Matrix (soil/water): WATER Lab Sample ID: 07275-01S

Level (low/med): LOW Date Received: 07/28/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	4.3	B		P
7440-39-3	Barium	47.2	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	97700			P
7440-47-3	Chromium	5.8	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.5	B		P
7439-89-6	Iron	5.0	U		P
7439-92-1	Lead	1.5	B		P
7439-95-4	Magnesium	25200			P
7439-96-5	Manganese	1.0	B		P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	7920			P
7782-49-2	Selenium	4.3	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	31700			P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	7.6	B		P
7440-66-6	Zinc	4.1	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713508.1534

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08YC6

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y92

Matrix (soil/water): WATER Lab Sample ID: 07275-02S

Level (low/med): LOW Date Received: 07/28/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	1.7	U		P
7440-39-3	Barium	46.6	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	97600			P
7440-47-3	Chromium	4.4	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	5.0	U		P
7439-92-1	Lead	1.2	B		P
7439-95-4	Magnesium	25200			P
7439-96-5	Manganese	1.2	B		P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	7890			P
7782-49-2	Selenium	3.3	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	31600			P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	5.0	B		P
7440-66-6	Zinc	5.0	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713508.1535

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08YD1

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y92

Matrix (soil/water): WATER Lab Sample ID: 07275-03S

Level (low/med): LOW Date Received: 07/28/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	1.7	U		P
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	83.4	B		P
7440-47-3	Chromium	1.8	U		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	5.0	U		P
7439-92-1	Lead	1.4	B		P
7439-95-4	Magnesium	26.6	U		P
7439-96-5	Manganese	1.2	B		P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	85.5	U		P
7782-49-2	Selenium	2.5	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	134	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	2.3	U		P
7440-66-6	Zinc	4.1	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713508.1536

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08YD6

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y92

Matrix (soil/water): WATER Lab Sample ID: 07275-04S

Level (low/med): LOW Date Received: 07/28/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	1.7	U		P
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	49.4	B		P
7440-47-3	Chromium	1.8	U		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	5.0	U		P
7439-92-1	Lead	1.5	B		P
7439-95-4	Magnesium	26.6	U		P
7439-96-5	Manganese	1.4	B		P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	85.5	U		P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	135	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	2.3	U		P
7440-66-6	Zinc	4.1	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

168

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7290260386

309PM 7290260386

RECIPIENT'S COPY

1 Date 7-27-93

From (Your Name) Please Print: Sample Control

Your Phone Number (Very Important): (610-235-2639

Department/Floor No.

Company: T A /NORCAL

Street Address: 20[illegible] [illegible]HT AVE

City: [illegible]ICH[illegible] State: CA ZIP Required: 94804

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

Recipient's Phone Number (Very Important): (617) 890-7200

Department/Floor No.

Company: Skinner and Shermann Laboratories

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 300-Second Avenue

City: Waltham State: Ma ZIP Required: 02254-0521

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2340-6406

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] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

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

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY**
* Economy Letter rate not available. Minimum charge: One pound economy rate.

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 Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN 1845 ____ X ____ kg. 904 III
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
Total	Total	Total
1	160	

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 Bailey-Powell

Date/Time Received: 7/28/93 10:00 FedEx Employee Number

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

REVISION DATE 11/92 PART #137204 FXEM 3/93 FORMAT #155

155

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7290260386

7290260386

97135088.1537

Sampled 7/23/93

TMA/Skinner & Sherman Laboratories
Sample Login Sheet

Workorder S307275 Client Hanford NOC Number/Type of Samples 4 water
Protocol CLP Turnaround 33 DAY Cooler Temp: 3 °C, or N/A Cooler Yes/No
Custodian: B Pennix Shipper & # Fed Ex SDG/Batch# N/A
Custody Seal: Present/Absent/Intact/Not Client Case# N307117
Purchase Order/Contract# N307117 Client Contact D. Sanchez
Tag#: Present/Absent/NA/(See COC) Chain of Custody: Present/Absent/NA,#

Sample Containers Intact/Broken Comment:
Client Comment? Yes/No
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 7/28/93
List any date with paperwork/shipment problems & specify the problem:

N/A

	Client id	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	B08Y92	water	7/28/93	1.91	TM	
2	B08YC6	↓	↓	1.87	↓	
3	B08YD1	↓	↓	1.90	↓	
4	B08YD6	↓	↓	1.89	DS ↓	
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

These samples are from a site known to have Radioactive Contamination: Yes ✓ No
These samples have detectable amounts of Radioactive Material: Yes No ✓

Subcontract: Yes/No To: Date:

169

Reviewed Date

Complete SP 7/28/93

* EPA/CLP required

Rev 1.7

PAGE 1 TMA/Norcal 9713508 1539 CHAIN OF CUSTODY ORD # N3-07-117

RCVD: 07/27/93 DUE: 08/26/93 07/27/93 12:47:38 KEEP: 08/26/94 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SV and CATEGORY				
01B-W	B08Y91	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
02B-W	B08YC5	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
03B-W	B08YD0	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
04B-W	B08YD5	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
04F-W	B08YD5 MS	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
04G-W	B08YD5 DUP	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
04H-W	L C S		S&S	WH007	WH008	WH010	WH137	
05A-W	B08Y92	FILTERED	S&S	WH007	WH008	WH010		
06A-W	B08YC6	FILTERED	S&S	WH007	WH008	WH010		
07A-W	B08YD1	FILTERED	S&S	WH007	WH008	WH010		
08A-W	B08YD6	FILTERED	S&S	WH007	WH008	WH010		
08B-W	B08YD6 MS	FILTERED	S&S	WH007	WH008	WH010		
08C-W	B08YD6 DUP	FILTERED	S&S	WH007	WH008	WH010		
08D-W	L C S		S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Eyamamoto	7-27-93	SKINNER	7-27-93	Bark	7/28/93

9713508.1540

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

OCT 1993
RECEIVED
SDLA

August 26, 1993

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 July 29, 1993. The sample was analyzed for the USEPA CLP metals and cyanide. The analysis was performed under TMA/Skinner and Sherman work order S307292.

Methodology
The sample was 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.

Steven Provencal

Steven R. Provencal
Lead Chemist

RECORD COPY

5/16/96 M.H.

9713508.1541

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y16

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

Lab Code: SKINER Case No.: N3-07-123SAS No.: SDG No.: B08Y16

Matrix (soil/water): WATER Lab Sample ID: 07292-01S

Level (low/med): LOW Date Received: 07/29/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	2.8	U		F
7440-39-3	Barium	25.0	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	31700			P
7440-47-3	Chromium	4.1	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	7.5	B		P
7439-89-6	Iron	132			P
7439-92-1	Lead	1.4	U		F
7439-95-4	Magnesium	5100			P
7439-96-5	Manganese	1.7	B		P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	1990	B		P
7782-49-2	Selenium	2.4	U	W	F
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	3100	B		P
7440-28-0	Thallium	3.0	U	WN	F
7440-62-2	Vanadium	2.3	U		P
7440-66-6	Zinc	4.4	B		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

002

9713508.1548 Sampled 7/23/93

TMA/Skinner & Sherman Laboratories
Sample Login Sheet

Workorder 5307092 Client Hanford Nor Number/Type of Samples 2 water
Protocol CLP Turnaround 33 DAY Cooler Temp: 3 °C, or N/A Cooler Yes/No
Custodian: B Prouix Shipper & # Fed Ex SDG/Batch# NA
Custody Seal: Present/Absent/Intact/Not Client Case# N307123
Purchase Order/Contract# N307123 Client Contact D. Sanchez
Tag#: Present/Absent/NA/(See COC) Chain of Custody: Present/Absent/NA,#

Sample Containers - Intact/Broken Comment:
Client Comment? Yes/No
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 7/29/93
List any date with paperwork/shipment problems & specify the problem:

NA

	Client ID	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	308416		7/29/93	1.57/12.19	D.S TM/CN	
2						
3						
4						
5						
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19						
20						

These samples are from a site known to have Radioactive Contamination: Yes ✓ No
These samples have detectable amounts of Radioactive Material: Yes No ✓

Subcontract: Yes/No, To: Date:

Reviewed Date

Complete 7/30/93

* EPA/CLP required

Rev. 1.7

PAGE 1 9743508.1543 CHAIN OF CUSTODY ORD # 10-07-122

RCVD: 07/28/93 DUE: 09/08/93 07/28/93 14:12:55 KEEP: 09/08/94 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B	BOBY16	UNFILTEREDS&S	WH007	WH008	WH010	WH011	WH137
01F	BOBY16 MS	UNFILTERED S&S	WH007	WH008	WH010	WH011	WH137
01G	BOBY16 DUP	UNFILTERED S&S	WH007	WH008	WH010	WH011	WH137
01H	GC-LCS	S&S	WH007	WH008	WH010	WH137	
02A	BOBY17	FILTEREDS&S	WH007	WH008	WH010		
02B	BOBY17 MS	FILTEREDS&S	WH007	WH008	WH010		
02C	BOBY17 DUP	FILTEREDS&S	WH007	WH008	WH010		
02D	GC-LCS	S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Neil M Heath	7-28-93	Schnuber & Sherman		Barb Rowe	7/28/93

9713508.1544

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

OCT 1993
RECEIVED
SDLA

August 26, 1993

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 July 29, 1993. The sample was analyzed for the USEPA CLP metals. The analysis was performed under TMA/Skinner and Sherman work order S307293.

Methodology
The sample was 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 and thallium digestion spike recoveries 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.

Steven Provencal
Steven R. Provencal
Lead Chemist

RECORD COPY

5/16/96 M.H.

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B08Y17

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

Lab Code: SKINER Case No.: N3-07-123SAS No.: SDG No.: B08Y17

Matrix (soil/water): WATER Lab Sample ID: 07293-01S

Level (low/med): LOW Date Received: 07/29/93

% 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	20.9	U		P
7440-36-0	Antimony	15.7	U		P
7440-38-2	Arsenic	2.7	U	W	F
7440-39-3	Barium	23.2	B		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	32100			P
7440-47-3	Chromium	5.1	U		P
7440-48-4	Cobalt	2.5	U		P
7440-50-8	Copper	5.0	B		P
7439-89-6	Iron	24.4	B		P
7439-92-1	Lead	1.9	U		F
7439-95-4	Magnesium	5250			P
7439-96-5	Manganese	1.6	U		P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	4.7	U		P
7440-09-7	Potassium	2130	B		P
7782-49-2	Selenium	3.7	U	MWN	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	3220	B		P
7440-28-0	Thallium	2.0	U	N	F
7440-62-2	Vanadium	3.0	B		P
7440-66-6	Zinc	3.7	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

002

Sample 1546 7/23/93

TMA/Skinner & Sherman Laboratories
Sample Login Sheet

Workorder 5307293 Client Hanford Nor Number/Type of Samples 1 water
Protocol CLP Turnaround 93 Day Cooler Temp: 3 °C, or N/A Cooler Yes/No
Custodian: B Prouix Shipper & # Fed Ex SDG/Batch# N/A
Custody Seal: Present/Absent/Intact/Not Client Case# N307123
Purchase Order/Contract# N307123 Client Contact D. Sanchez
Tag#: Present/Absent/NA/(See COC) Chain of Custody: Present/Absent/NA,#

Sample Containers - Intact/Broken Comment:
Client Comment? Yes/No
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 7/29/93
List any date with paperwork/shipment problems & specify the problem:

N/A

	Client ID	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	B08417	Water	7/29/93	1.63	DSTM	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

These samples are from a site known to have Radioactive Contamination: Yes ✓ No
These samples have detectable amounts of Radioactive Material: Yes No ✓

Subcontract: Yes/No To: Date:

Reviewed Date

complete 7/30/93

37

* EPA/CLP required

PAGE 1 93-03508.1547 CHAIN OF CUSTODY ORD # HG-07-123
RCVD: 07/28/93 DUE: 09/08/93 07/28/93 14:12:55 KEEP: 09/08/94 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B	BC8Y16	UNFILTERED S&S	WH007	WH008	WH010	WH011	WH137
01F	BC8Y16 MS	UNFILTERED S&S	WH007	WH008	WH010	WH011	WH137
01G	BC8Y16 DUP	UNFILTERED S&S	WH007	WH008	WH010	WH011	WH137
01H	GC-LCS	S&S	WH007	WH008	WH010	WH137	
02A	BC8Y17	FILTERED S&S	WH007	WH008	WH010		
02B	BC8Y17 MS	FILTERED S&S	WH007	WH008	WH010		
02C	BC8Y17 DUP	FILTERED S&S	WH007	WH008	WH010		
02D	GC-LCS	S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Neil M Clark	7-28-93	Schnuer & Sherman		Barb Payne	7/29/93

9713508.1548

TMA
Thermo Analytical Inc.

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

RECORD COPY

OCT 1993
RECEIVED
SDLA

September 1, 1993

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 August 3, 1993 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 S308012.

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

Some or all of the elements traditionally analyzed by Graphite Furnace AA have been analyzed by a Thermo Jarrell Ash ICAP61E Trace Analyzer. The Trace Analyzer is a standard simultaneous ICP and nebulizer optimized to achieve instrument detection limits below the CLP CRDL for arsenic, selenium, lead, and thallium. For selenium, lead, and thallium, the instrument utilizes both the first and second orders of the analytical wavelength in order to achieve better simultaneous background correction and stability.

Discussion
All quality control requirements were met for the samples with the following exception:

The manganese ICP serial dilution exceeded the control limit requirement.

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

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

Steven Provencal

Steven R. Provencal
Lead Chemist

i 5/16/96 M.H.

9713508.1549

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y11

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

Lab Code: SKINER Case No.: N3-07-134SAS No.: SDG No.: B08Y11

Matrix (soil/water): WATER Lab Sample ID: 08012-01S

Level (low/med): LOW Date Received: 08/03/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	11.7			P
7440-39-3	Barium	30.8	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	37000			P
7440-47-3	Chromium	8.0	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.4	B		P
7439-89-6	Iron	16.4	B		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	11700			P
7439-96-5	Manganese	1.1	B	E	P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	7.8	B		P
7440-09-7	Potassium	4100	B		P
7782-49-2	Selenium	4.0	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	48400			P
7440-28-0	Thallium	3.1	B		P
7440-62-2	Vanadium	19.4	B		P
7440-66-6	Zinc	8.4	B		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

002

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y81

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

Lab Code: SKINER Case No.: N3-07-134SAS No.: SDG No.: B08Y11

Matrix (soil/water): WATER Lab Sample ID: 08012-02S

Level (low/med): LOW Date Received: 08/03/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	9.5	B		P
7440-39-3	Barium	25.6	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	59400			P
7440-47-3	Chromium	19.3			P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	36.6	B		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	17800			P
7439-96-5	Manganese	1.2	B	E	P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	6.8	B		P
7440-09-7	Potassium	6100			P
7782-49-2	Selenium	3.6	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	51800			P
7440-28-0	Thallium	2.0	B		P
7440-62-2	Vanadium	14.4	B		P
7440-66-6	Zinc	8.0	B		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B08Y86

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

Lab Code: SKINER Case No.: N3-07-134SAS No.: SDG No.: B08Y11

Matrix (soil/water): WATER Lab Sample ID: 08012-03S

Level (low/med): LOW Date Received: 08/03/93

% 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	25.8	B		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	5.3	B		P
7440-39-3	Barium	47.5	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	70500			P
7440-47-3	Chromium	9.2	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	18.0	B		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	21500			P
7439-96-5	Manganese	46.5		E	P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	6.5	B		P
7440-09-7	Potassium	7590			P
7782-49-2	Selenium	4.0	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	72800			P
7440-28-0	Thallium	2.5	B		P
7440-62-2	Vanadium	9.7	B		P
7440-66-6	Zinc	7.7	B		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713508.1552

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7290260795

3095M 7290260795

RECIPIENT'S COPY

1 Date 8-2-93

From (Your Name) Please Print: Sample Control
Your Phone Number (Very Important): (10-235-2633
Company: A & /NORCAL
Department/Floor No.:
Street Address: 2030 WRIGHT AVE
City: RICHMOND State: CA ZIP Required: 9 4 8 0 4

2 To (Recipient's Name) Please Print: Antonia
Recipient's Phone Number (Very Important): (617) 890-7200
Company: Skinner and Sherman Laboratories
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: 02254-0521

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2340-6406

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

Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
- 51 [ ] OTHER 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

* Economy letter rate not available. Minimum charge: One pound economy rate.

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 Dangerous Goods Shipper's Declaration not required. Dry Ice, 9, UN 1845, ____ x ____ kg. 904 III
- 7 [ ] OTHER SPECIAL SERVICE
- 8 [ ]
- 9 [ ] SATURDAY PICK-UP (Extra charge)
- [ ]
- 12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
2		
Total 2	Total 110	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

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 Basil Prince
Date/Time Received: 8/3/93 10:00 FedEx Employee Number: 14.00
Lost Shipment

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

REVISION DATE 11/92 PART #137204 FXEM 3/93 FORMAT #155

155

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9713508.1553

TMA/Skinner & Sherman Laboratories
Sample Login Sheet

Workorder 5308012 Client HANFORD NW Number/Type of Samples 6 water
Protocol CLP Turnaround 33 DAY Cooler Temp: 4 °C, or N/A Cooler Yes/No
Custodian: B. PROULX Shipper & # FED EX SDG/Batch# N/A
Custody Seal: Present/Absent/Intact/Not Client Case# N307134
Purchase Order/Contract# N307134 Client Contact D. SANCHEZ
Tag#: Present/Absent/NA/(See COC) Chain of Custody: Present/Absent/NA, #

Sample Containers - Intact/Broken Comment:
Client Comment? Yes/No
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 8/3/93
List any date with paperwork/shipment problems & specify the problem:

N/A

	Client ID	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	B08411	water	8/3/93	1.57 12.12	TM/CN	
2	B08481	↓	↓	1.60 12.19	↓	
3	B08486	↓	↓	1.49 12.10 D.S	↓	
4						
5						
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20						

These samples are from a site known to have Radioactive Contamination: Yes ✓ No
These samples have detectable amounts of Radioactive Material: Yes No ✓

Subcontract: Yes/No, To: Date:

Reviewed Date

Comp Acc 8/3/93 BP

* EPA/CLP required

Rev 1.7

Page: 6

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PAGE 1 07/30/93 08:15:54 CHAIN OF CUSTODY ORD # N3-07-134

RCVD: 07/30/93 DUE: 09/03/93 07/30/93 16:00:23 KEEP: 09/03/94 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	B0BY11		UNFILTERED S&S	WH007	WH008	WH010	WH011	WH137
02B-W	B0BY81		UNFILTERED S&S	WH007	WH008	WH010	WH011	WH137
03B-W	B0BY86		UNFILTERED S&S	WH007	WH008	WH010	WH011	WH137
03F-W	B0BY86	MS	UNFILTERED S&S	WH007	WH008	WH010	WH011	WH137
03G-W	B0BY86	DUP	UNFILTERED S&S	WH007	WH008	WH010	WH011	WH137
03H-W	L C S		S&S	WH007	WH008	WH010	WH137	
04A-W	B0BY12		FILTERED S&S	WH007	WH008	WH010		
05A-W	B0BY82		FILTERED S&S	WH007	WH008	WH010		
06A-W	B0BY87		FILTERED S&S	WH007	WH008	WH010		
06B-W	B0BY87	MS	FILTERED S&S	WH007	WH008	WH010		
06C-W	B0BY87	DUP	FILTERED S&S	WH007	WH008	WH010		
06D-W	L C S		S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
eyamamoto	8-2-93	Skinner	8-2-93	Bart Prno	8/3/93

TMA 9713508.1555
Thermo Analytical Inc.

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

RECORD COPY

OCT 1993
RECEIVED
SDLA

September 1, 1993

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 August 3, 1993 from TMA/Norcal. The samples were analyzed for the USEPA CLP metals. The analysis was performed under TMA/Skinner and Sherman work order S308014.

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

Some or all of the elements traditionally analyzed by Graphite Furnace AA have been analyzed by a Thermo Jarrell Ash ICAP61E Trace Analyzer. The Trace Analyzer is a standard simultaneous ICP and nebulizer optimized to achieve instrument detection limits below the CLP CRDL for arsenic, selenium, lead, and thallium. For selenium, lead, and thallium, the instrument utilizes both the first and second orders of the analytical wavelength in order to achieve better simultaneous background correction and stability.

Discussion
All quality control requirements were met for the sample with no exceptions.

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

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

Steven Provencal
Steven R. Provencal
Lead Chemist

i 5/16/96 M.H.

WESTINGHOUSE/HANFORD

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y12

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

Lab Code: SKINER Case No.: N3-07-134SAS No.: SDG No.: B08Y12

Matrix (soil/water): WATER Lab Sample ID: 08014-01S

Level (low/med): LOW Date Received: 08/03/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	8.1	B		P
7440-39-3	Barium	29.9	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	36400			P
7440-47-3	Chromium	4.6	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	5.0	U		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	11500			P
7439-96-5	Manganese	1.1	B		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	4.6	B		P
7440-09-7	Potassium	4060	B		P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	47500			P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	20.8	B		P
7440-66-6	Zinc	6.8	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

B08Y82

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: SKINER Case No.: N3-07-134SAS No.: SDG No.: B08Y12

Matrix (soil/water): WATER Lab Sample ID: 08014-02S

Level (low/med): LOW Date Received: 08/03/93

% 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	24.4	B		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	4.8	B		P
7440-39-3	Barium	34.6	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	59500			P
7440-47-3	Chromium	6.4	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	5.0	U		P
7439-92-1	Lead	5.1			P
7439-95-4	Magnesium	17900			P
7439-96-5	Manganese	1.1	B		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	6290			P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	52000			P
7440-28-0	Thallium	1.4	B		P
7440-62-2	Vanadium	13.8	B		P
7440-66-6	Zinc	6.8	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

WESTINGHOUSE/HANFORD

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y87

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

Lab Code: SKINER Case No.: N3-07-134SAS No.: SDG No.: B08Y12

Matrix (soil/water): WATER Lab Sample ID: 08014-03S

Level (low/med): LOW Date Received: 08/03/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	2.9	B		P
7440-39-3	Barium	47.6	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	71600			P
7440-47-3	Chromium	5.2	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	5.0	U		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	21800			P
7439-96-5	Manganese	46.4			P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	7810			P
7782-49-2	Selenium	2.6	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	74800			P
7440-28-0	Thallium	1.1	B		P
7440-62-2	Vanadium	8.2	B		P
7440-66-6	Zinc	4.2	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

971508 1059 Samples 7/28/93

TMA/Skinner & Sherman Laboratories
Sample Login Sheet

Workorder S308014 Client HANFORD NOP Number/Type of Samples 3 water
Protocol CLP Turnaround 33DAY Cooler Temp: 4 °C, or N/A Cooler Yes/No
Custodian: B PROWN Shipper & # Fed Ex SDG/Batch# N/A
Custody Seal: Present/Absent/Intact/Not Client Case# N307134
Purchase Order/Contract# N307134 Client Contact D. SANCHEZ
Tag#: Present/Absent/NA/(See COC) Chain of Custody: Present/Absent/NA,#

Sample Containers - Intact/Broken Comment:
Client Comment? Yes/No
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 8/3/93
List any date with paperwork/shipment problems & specify the problem:

N/A

	Client ID	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	B08412	water	8/3/93	1.29	TM	
2	B08482	↓	↓	1.25	↓	
3	B08487	↓	↓	1.31	D.S ↓	
4						
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19						
20						

These samples are from a site known to have Radioactive Contamination: Yes ✓ No
These samples have detectable amounts of Radioactive Material: Yes No ✓

Subcontract: Yes/No, To: Date:

144

Reviewed Date

Compute 8/3/93

* EPA/CLP required

Rev 1.7

Page: 10

Page: 1 9/4135508.1560 CHAIN OF CUSTODY ORD # N3-07-134
RCVD: 07/30/93 DUE: 09/03/93 07/30/93 16:00:23 KEEP: 09/03/94 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01B-W	BC8Y11	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
02B-W	BC8Y81	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
03B-W	BC8Y86	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
03F-W	BC8Y86 MS	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
03G-W	BC8Y86 DUP	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
03H-W	L C S		S&S	WH007	WH008	WH010	WH137	
04A-W	BC8Y12	FILTERED	S&S	WH007	WH008	WH010		
05A-W	BC8Y82	FILTERED	S&S	WH007	WH008	WH010		
06A-W	BC8Y87	FILTERED	S&S	WH007	WH008	WH010		
06B-W	BC8Y87 MS	FILTERED	S&S	WH007	WH008	WH010		
06C-W	BC8Y87 DUP	FILTERED	S&S	WH007	WH008	WH010		
06D-W	L C S		S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
eyamamoto	8-2-93	Skinner	8-2-93	Bart Prine	8/3/93

9713508.1561

TMA
Thermo Analytical Inc.

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

RECORD COPY

OCT 1993
RECEIVED
SDLA

September 1, 1993

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 August 4, 1993 from TMA/Norcal. The sample was analyzed for the USEPA CLP metals and cyanide. The analysis was performed under TMA/Skinner and Sherman work order S308026.

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

Some or all of the elements traditionally analyzed by Graphite Furnace AA have been analyzed by a Thermo Jarrell Ash ICAP61E Trace Analyzer. The Trace Analyzer is a standard simultaneous ICP and nebulizer optimized to achieve instrument detection limits below the CLP CRDL for arsenic, selenium, lead, and thallium. For selenium, lead, and thallium, the instrument utilizes both the first and second orders of the analytical wavelength in order to achieve better simultaneous background correction and stability.

Discussion
All quality control requirements were met for the sample with no exceptions.

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

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

Steven Provencal

Steven R. Provencal
Lead Chemist

5/16/96 M.H.

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y21

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

Lab Code: SKINER Case No.: N3-08-009SAS No.: SDG No.: B08Y21

Matrix (soil/water): WATER Lab Sample ID: 08026-01S

Level (low/med): LOW Date Received: 08/04/93

% 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	22.5	B		P
7440-36-0	Antimony	15.7	U		P
7440-38-2	Arsenic	1.7	U		P
7440-39-3	Barium	14.8	B		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	48500			P
7440-47-3	Chromium	5.1	U		P
7440-48-4	Cobalt	2.5	U		P
7440-50-8	Copper	4.0	U		P
7439-89-6	Iron	6590			P
7439-92-1	Lead	2.4	B		P
7439-95-4	Magnesium	13700			P
7439-96-5	Manganese	63.6			P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	5.5	B		P
7440-09-7	Potassium	3830	B		P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	6220			P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	2.6	U		P
7440-66-6	Zinc	38.1			P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713508.1563

Sampled 7/30/93

TMA/Skinner & Sherman Laboratories
Sample Login Sheet

Workorder S308026 Client HANFORD NHP Number/Type of Samples 2 WATER
Protocol CLP Turnaround 33 DAY Cooler Temp: 2 °C, or N/A Cooler Yes/No
Custodian: B. PROOK Shipper & # _____ SDG/Batch# NA
Custody Seal: Present/Absent/Intact/Not Client Case# N308009
Purchase Order/Contract# N308009 Client Contact D. SANCHEZ
Tag#: Present/Absent/NA (See COC) Chain of Custody: Present/Absent/NA,# _____

Sample Containers - Intact/Broken Comment: _____
Client Comment? Yes/No _____
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 8/4/93
List any date with paperwork/shipment problems & specify the problem:

NA Unfiltered

	Client ID	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	B08Y21	WATER	8/4/93	1.80 / 13.00	D.S TAN/CN	
2						
3						
4						
5						
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20						

These samples are from a site known to have Radioactive Contamination: Yes ✓ No ____
These samples have detectable amounts of Radioactive Material: Yes ____ No ✓

Subcontract: Yes/No, To: _____ Date: _____

Reviewed _____ Date _____

Complete 8/4/93 BP

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* EPA/CLP required

Rev 1.7

Page: 20

LAB#	SAMPLE IDENTIFICATION			STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01G-W	B08Y21		UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
01F-W	B08Y21	MS	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
01G-W	B08Y21	DUP	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
01H-W	LCS			S&S	WH007	WH008	WH010	WH137	
02A-W	B08Y22		FILTERED	S&S	WH007	WH008	WH010		
02B-W	B08Y22	MS	FILTERED	S&S	WH007	WH008	WH010		
02C-W	B08Y22	DUP	FILTERED	S&S	WH007	WH008	WH010		
02D-W	LCS			S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	8-3-93	Kinney	8-3-93	Bob Prunty	8/4/93

9713508.1565

TMA
Thermo Analytical Inc.

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

RECORD COPY

OCT 1993
RECEIVED
SDLA

September 1, 1993

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 August 4, 1993 from TMA/Norcal. The sample was analyzed for the USEPA CLP metals. The analysis was performed under TMA/Skinner and Sherman work order S308027.

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

Some or all of the elements traditionally analyzed by Graphite Furnace AA have been analyzed by a Thermo Jarrell Ash ICAP61E Trace Analyzer. The Trace Analyzer is a standard simultaneous ICP and nebulizer optimized to achieve instrument detection limits below the CLP CRDL for arsenic, selenium, lead, and thallium. For selenium, lead, and thallium, the instrument utilizes both the first and second orders of the analytical wavelength in order to achieve better simultaneous background correction and stability.

Discussion
All quality control requirements were met for the sample with no exceptions.

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

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

Steven Provencal

Steven R. Provencal
Lead Chemist

i 5/16/96 M.G.

9713508.1566

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y22

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

Lab Code: SKINER Case No.: N3-08-009SAS No.: SDG No.: B08Y22

Matrix (soil/water): WATER Lab Sample ID: 08027-01S

Level (low/med): LOW Date Received: 08/04/93

% 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	20.9	U		P
7440-36-0	Antimony	15.7	U		P
7440-38-2	Arsenic	1.7	U		P
7440-39-3	Barium	22.9	B		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	45800			P
7440-47-3	Chromium	5.1	U		P
7440-48-4	Cobalt	2.5	U		P
7440-50-8	Copper	4.0	U		P
7439-89-6	Iron	15.5	U		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	13000			P
7439-96-5	Manganese	49.3			P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	4.7	U		P
7440-09-7	Potassium	3570	B		P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	5850			P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	2.6	U		P
7440-66-6	Zinc	3.7	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713508.1562 Sampled 7/30/93

TMA/Skinner & Sherman Laboratories
Sample Login Sheet

Workorder 5308027 Client Hanford Nor Number/Type of Samples 1 water
Protocol CLP Turnaround 33 DAYS Cooler Temp: 2 °C, or N/A Cooler Yes/No
Custodian: B Prouix Shipper & # Fed Ex SDG/Batch# N/A
Custody Seal: Present/Absent/Intact/Not Client Case# N308009
Purchase Order/Contract# N308009 Client Contact D. Sanchez
Tag#: Present/Absent/NA/(See COC) Chain of Custody: Present/Absent/NA, #

Sample Containers - Intact/Broken Comment:
Client Comment? Yes/No
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 8/4/93
List any date with paperwork/shipment problems & specify the problem:

N/A filtered

	Client ID	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	B0 8422	water	8/4/93	1.24	D.S TM	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

These samples are from a site known to have Radioactive Contamination: Yes ✓ No
These samples have detectable amounts of Radioactive Material: Yes No ✓

Subcontract: Yes/No, To: Date:

Reviewed Date

Compute BP 8/4/93

* EPA/CLP required

Rev 1.7

CMA/No 9313508.1568 CHAIN OF CUSTODY ORD # NG-08-009

03/03/93 DUE: 09/07/93 03/03/93 13:30:00 KEEP: 09/07/94 DISP: S

LAB#	SAMPLE IDENTIFICATION			STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY				
01G-W	B08Y21		UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
01F-W	B08Y21	MS	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
01G-W	B08Y21	DUP	UNFILTERED	S&S	WH007	WH008	WH010	WH011	WH137
01H-W	LCS			S&S	WH007	WH008	WH010	WH137	
02A-W	B08Y22		FILTERED	S&S	WH007	WH008	WH010		
02B-W	B08Y22	MS	FILTERED	S&S	WH007	WH008	WH010		
02C-W	B08Y22	DUP	FILTERED	S&S	WH007	WH008	WH010		
02D-W	LCS			S&S	WH007	WH008	WH010		

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Eyamamoto	8-3-93	Skinner	8-3-93	Bob Prud	8/4/93

9713508.1569

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

RECORD COPY

September 24, 1993

SEP 1993
RECEIVED
SDLA

Ref: TMA/Norcal N3-07-119-7217

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

Dear Ms. Colley:

Enclosed is the data report for the nine water samples from location 100-FR-3 we received July 27, 1993 through August 3, 1993. Results are given for gross alpha, gross beta, tritium, carbon-14, strontium-90, technetium-99, isotopic uranium, isotopic plutonium, americium-241, and gamma scan analyses. The data package is numbered pages 1 through 644.

Please call if you have any questions concerning this data.

Sincerely,

D.P. Kharkar

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

DPK/ss

Enclosure: Data Package

SDG: 7217
Contact: Dinkar Kharkar

TMA NORCAL

REPORTING GROUP 7217

Client: Westinghouse Hanford
Contract: MBH-SVV-069262

CASE NARRATIVE

1.0 GENERAL

TMA/Norcal Sample Delivery Group 7217 is comprised of the samples listed on the chain-of-custody documents below. This sample group was processed under the Westinghouse Hanford Company Statement of Work P.O. MBH-SVV-069262.

1.1 Chains-of-Custody

This report includes data for the nine samples from location 100-FR-3 delivered under Chain-of-Custody documents Field Logbook #EFL-1055.

1.2 Sample Volume

One 4 L, one 1 L plastic bottle, and a 250 mL glass bottle containing the samples were received for the analyses. Adequate volumes of all samples were received for analyses.

1.3 Missing Samples

There were no missing samples.

1.4 Holding Times

The samples were collected between July 24, 1993 and July 30, 1993 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 sample, a blank, and a replicate. All original analyses were performed with QC samples 7217-10 through 7217-15.

The QC samples were prepared by the Quality Control Department. Copies of the QC notebook pages are included in this data package.

2.1 Laboratory Control Samples

The LCS recoveries for all nuclides were acceptable. The MDA's of the results for all analyses met the RDL's.

2.2 Reagent Blanks

The MDA's of the results for all analyses met the RDL's. The carbon-14 negative result was underlined because it was less than the negative of its 2 σ counting error.

2.0 QUALITY CONTROL (cont'd)

2.3 Duplicates

Results were satisfactory for all duplicate analyses except for gross beta, technetium-99, and uranium-238 where the relative percent difference (RPD) between the duplicates and their originals were above the 3 σ total limits. The gross beta deposit on the planchet looked good, the technetium-99 and uranium yields, and the uranium spectrum looked good. The discrepancy of the duplicate results are under investigation. The carbon-14 negative results of the original and the duplicate were underlined because they were less than the negative of their 2 σ counting errors.

3.0 ANALYSIS NOTES

3.1 Gross Alpha Analyses

The average MDA for gross alpha was (2 $\pm$ 1) pCi/L. Gross alpha activity above the RDL was found in samples BO8Y11, BO8Y81, and BO8Y91. The negative result of sample BO8Y21 was underlined because it was less than the negative of its 2 σ counting error.

3.2 Gross Beta Analyses

The average MDA for gross beta was (2 $\pm$ 0.9) pCi/L. Gross beta activity above the RDL was found in all of the samples except BO8YC5, BO8YD0, and BO8YD5.

3.3 Tritium Analyses

The average MDA for twelve analyses was (200 $\pm$ 0) pCi/L. Tritium activity above the RDL was found in all of the samples except in BO8Y11, BO8YD0, and BO8YD5.

3.4 Carbon-14 Analyses

The average MDA for twelve analyses was (30 $\pm$ 10) pCi/L. Carbon-14 activity above the RDL was found in samples BO8Y11 and BO8Y16. The negative results of samples BO8Y21, BO8Y86, BO8Y81, BO8Y91, BO8YC5, BO8YD0, and BO8YD5 were underlined because they were less than the negative of their 2 σ counting errors.

3.5 Strontium-90 Analyses

The average yield for twelve analyses was (89 $\pm$ 14)%. The lowest yield was 76% and the highest was 96%. The average MDA was (0.8 $\pm$ 0.2) pCi/L. Strontium-90 activity above the RDL was found in samples BO8Y16, BO8Y21, and BO8Y91. The strontium-90 error was underlined for samples BO8Y86 and BO8YC5 because they were larger 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 ANALYSIS NOTES (cont'd)

3.6 Technetium-99 Analyses

The average yield for twelve analysis was (44 ± 6)%. The lowest yield was 39% and the highest was 48%. The average MDA was (2 ± 2) pCi/L. Technetium-99 activity above the RDL was found in all of the sample except sample BO8Y86.

3.7 Isotopic Uranium Analyses

The average yield for twelve analyses was (80 ± 16)%. The lowest yield was 64% and the highest was 96%. The average MDA was (0.1 ± 0.06) pCi/L. Uranium-233/234 activity above the RDL was found in all of the samples except in samples BO8Y21, BO8YD0, and BO8YD5. Uranium-235 activity above RDL was found in samples BO8Y91 and BO8YC5. Uranium-238 activity above RDL was found in all of the samples except in samples BO8YD0 and BO8YD5.

3.8 Isotopic Plutonium Analyses

The average yield for twelve analyses was (52 ± 25)%. The lowest yield was 31% and the highest was 73%. The average MDA was (0.03 ± 0.03) pCi/L. Isotopic plutonium activity above the RDL was not found in any of the samples.

3.9 Americium-241 Analyses

The average yield for twelve analyses was (60 ± 38)%. The lowest yield was 22% and the highest yield was 81%. The average MDA was (0.03 ± 0.03) pCi/L. Americium-241 activity above the RDL was not found in any of the samples. The MDA for sample BO8YC5 was underlined because it was larger than the RDL.

3.10 Gamma Scan Analyses

Gamma scan analysis did not find positive gamma nuclide activity in any of the samples except for natural radioactivity of thorium-228/230, and radium-228 in sample BO8YC5 and radium-226 in sample BO8Y16.

9713508.1573

TMA NORCAL
REPORTING GROUP 7217

N307119-06

B08Y11

DATA SHEET

SDG 7217 | Client Westinghouse Hanford
Contact Dinkar Kharkar | Contract MBH-SVV-069262

Lab sample id N307119-06 | Client sample id B08Y11
Dept sample id 7217-006 | Location/Matrix 100-FR-3 LIQUID
Received 07/30/93 | Collected 07/28/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	4.5	2.1	2	3		80A
Gross Beta	Beta	5.7	1.6	2	4	B	80B
Uranium 233/234		2.1	0.36	0.1	0.2		U
Uranium 235	15117-96-1	0.14	0.079	0.1	0.2	J	U
Uranium 238	7440-61-1	1.9	0.33	0.08	0.2		U
Plutonium 238	13981-16-3	-0.019	0.024	0.05	0.05	U	PU
Plutonium 239/240		0	0.005	0.02	0.05	U	PU
Americium 241	14596-10-2	0.023	0.026	0.04	0.05	U	AM
Strontium 90	10098-97-2	0.16	0.19	0.7	2	U	Y
Technetium 99	14133-76-7	6.6	1.2	2	5	B	TC
Tritium	10028-17-8	120	130	200	400	U	H
Carbon 14	14762-75-5	82	25	40	50		C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		200		U	GAM
Iron 59	14596-12-4	U		20	30	U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		30		U	GAM
Ruthenium 103	13968-53-1	U		10		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		10		U	GAM
Cesium 134	13967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		50		U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-63-3	U		30		U	GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

9713508.1574

TMA NORCAL
REPORTING GROUP 7217

N307119-06

DATA SHEET, cont

B08Y11

SDG 7217 Client Westinghouse Hanford
Contact Dinkar Kharkar Contract MBH-SVV-069262

Lab sample id N307119-06 Client sample id B08Y11
Dept sample id 7217-006 Location/Matrix 100-FR-3 LIQUID
Received 07/30/93 Collected 07/28/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	7440-29-1	U		60		U	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-06	80A/80	7217-006		0.300 L	08/10/93	08/12/93	DPK
N307119-06	80B/80	7217-006		0.300 L	08/10/93	08/12/93	DPK
N307119-06	U	7217-006		1.00 L	08/26/93	08/30/93	DPK
N307119-06	PU	7217-006		1.00 L	08/18/93	08/23/93	DPK
N307119-06	AM	7217-006		1.00 L	08/21/93	08/25/93	DPK
N307119-06	Y	7217-006		1.00 L	08/24/93	08/27/93	DPK
N307119-06	TC	7217-006		0.200 L	08/26/93	08/27/93	DPK
N307119-06	H	7217-006		0.0100 L	08/16/93	09/14/93	DPK
N307119-06	C	7217-006		0.0300 L	09/11/93	09/15/93	DPK
N307119-06	GAM	7217-006		0.500 L	08/12/93	03/29/96	DPK

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

9713508.1575

N307119-05

TMA NORCAL
REPORTING GROUP 7217

DATA SHEET

B08Y16

SDG 7217 Client Westinghouse Hanford
Contact Dinkar Kharkar Contract MBH-SVV-069262

Lab sample id N307119-05 Client sample id B08Y16
Dept sample id 7217-005 Location/Matrix 100-FR-3 LIQUID
Received 07/28/93 Collected 07/23/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	-1.3	1.5	2	3	U	80A
Gross Beta	Beta	55	3.1	2	4	B	80B
Uranium 233/234		0.32	0.13	0.1	0.2		U
Uranium 235	15117-96-1	0.037	0.050	0.09	0.2	U	U
Uranium 238	7440-61-1	0.47	0.15	0.08	0.2		U
Plutonium 238	13981-16-3	-0.006	0.016	0.04	0.05	U	PU
Plutonium 239/240		0.005	0.010	0.02	0.05	U	PU
Americium 241	14596-10-2	0.004	0.011	0.02	0.05	U	AM
Strontium 90	10098-97-2	22	4.0	0.7	2		Y
Technetium 99	14133-76-7	26	1.5	2	5	B	TC
Tritium	10028-17-8	200	140	200	400	J	H
Carbon 14	14762-75-5	150	23	30	50		C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		300		U	GAM
Iron 59	14596-12-4	U		40	30	U	GAM
Cobalt 60	10198-40-0	U		20	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		30		U	GAM
Ruthenium 103	13968-53-1	U		20		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		20		U	GAM
Cesium 134	13967-70-9	U		20		U	GAM
Cesium 137	10045-97-3	U		20	20	U	GAM
Cerium 144	14762-78-8	U		70		U	GAM
Europium 152	14683-23-9	U		30	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-63-3	24	24				GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

TMA NORCAL
REPORTING GROUP 7217

N307119-05

DATA SHEET, cont

B08Y16

SDG 7217 Client Westinghouse Hanford
Contact Dinkar Kharkar Contract MBH-SVV-069262

Lab sample id N307119-05 Client sample id B08Y16
Dept sample id 7217-005 Location/Matrix 100-FR-3 LIQUID
Received 07/28/93 Collected 07/23/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Thorium 228	14274-82-9	U		30		U	GAM
Thorium 232	7440-29-1	U		70		U	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-05	80A/80	7217-005		0.300 L	08/10/93	08/12/93	DPK
N307119-05	80B/80	7217-005		0.300 L	08/10/93	08/12/93	DPK
N307119-05	U	7217-005		1.00 L	08/26/93	08/30/93	DPK
N307119-05	PU	7217-005		1.00 L	08/18/93	08/23/93	DPK
N307119-05	AM	7217-005		1.00 L	08/17/93	08/20/93	DPK
N307119-05	Y	7217-005		1.00 L	08/24/93	08/31/93	DPK
N307119-05	TC	7217-005		0.200 L	08/30/93	09/02/93	DPK
N307119-05	H	7217-005		0.0100 L	08/16/93	09/14/93	DPK
N307119-05	C	7217-005		0.0300 L	09/10/93	09/15/93	DPK
N307119-05	GAM	7217-005		0.500 L	08/12/93	03/29/96	DPK

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

9713508.1577

N307119-09

TMA NORCAL
REPORTING GROUP 7217

DATA SHEET

B08Y21

SDG 7217 Client Westinghouse Hanford
Contact Dinkar Kharkar Contract MBH-SVV-069262

Lab sample id N307119-09 Client sample id B08Y21
Dept sample id 7217-009 Location/Matrix 100-FR-3 LIQUID
Received 08/03/93 Collected 07/30/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	-2.6	1.8	1	3	U	80A
Gross Beta	Beta	460	8.2	2	4	B	80B
Uranium 233/234		0.18	0.080	0.09	0.2	J	U
Uranium 235	15117-96-1	0.008	0.032	0.06	0.2	U	U
Uranium 238	7440-61-1	0.21	0.080	0.05	0.2		U
Plutonium 238	13981-16-3	-0.003	0.026	0.05	0.05	U	PU
Plutonium 239/240		-0.003	0.011	0.03	0.05	U	PU
Americium 241	14596-10-2	0.003	0.007	0.009	0.05	U	AM
Strontium 90	10098-97-2	190	4.4	0.8	2		Y
Technetium 99	14133-76-7	5.8	0.80	1	5	B	TC
Tritium	10028-17-8	760	170	200	400		H
Carbon 14	14762-75-5	-42	17	30	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		100		U	GAM
Iron 59	14596-12-4	U		20	30	U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		20		U	GAM
Ruthenium 103	13968-53-1	U		10		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		10		U	GAM
Cesium 134	13967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		50		U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		10	40	U	GAM
Radium 226	13982-63-3	U		20		U	GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

9713508.1578

TMA NORCAL
REPORTING GROUP 7217

N307119-09

DATA SHEET, cont

B08Y21

SDG 7217 Client Westinghouse Hanford
Contact Dinkar Kharkar Contract MBH-SVV-069262

Lab sample id N307119-09 Client sample id B08Y21
Dept sample id 7217-009 Location/Matrix 100-FR-3 LIQUID
Received 08/03/93 Collected 07/30/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	7440-29-1	U		50		U	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-09	80A/80	7217-009		0.300 L	08/11/93	08/13/93	DPK
N307119-09	80B/80	7217-009		0.300 L	08/11/93	08/12/93	DPK
N307119-09	U	7217-009		1.00 L	08/27/93	08/31/93	DPK
N307119-09	PU	7217-009		1.00 L	08/18/93	08/23/93	DPK
N307119-09	AM	7217-009		1.00 L	08/23/93	08/27/93	DPK
N307119-09	Y	7217-009		1.00 L	08/24/93	08/31/93	DPK
N307119-09	TC	7217-009		0.200 L	08/30/93	09/02/93	DPK
N307119-09	H	7217-009		0.0100 L	08/16/93	09/14/93	DPK
N307119-09	C	7217-009		0.0300 L	09/11/93	09/15/93	DPK
N307119-09	GAM	7217-009		0.500 L	08/13/93	03/29/96	DPK

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

9713508.1579

TMA NORCAL
REPORTING GROUP 7217

N307119-07

DATA SHEET

B08Y81

SDG 7217 | Client Westinghouse Hanford
Contact Dinkar Kharkar | Contract MBH-SVV-069262

Lab sample id N307119-07 | Client sample id B08Y81
Dept sample id 7217-007 | Location/Matrix 100-FR-3 LIQUID
Received 07/30/93 | Collected 07/28/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	3.2	2.0	2	3		80A
Gross Beta	Beta	6.1	1.5	2	4	B	80B
Uranium 233/234		3.6	0.54	0.1	0.2		U
Uranium 235	15117-96-1	0.13	0.087	0.1	0.2	J	U
Uranium 238	7440-61-1	2.8	0.48	0.1	0.2		U
Plutonium 238	13981-16-3	0.006	0.020	0.04	0.05	U	PU
Plutonium 239/240		0.006	0.008	0.02	0.05	U	PU
Americium 241	14596-10-2	0.033	0.022	0.03	0.05	J	AM
Strontium 90	10098-97-2	0.082	0.19	0.8	2	U	Y
Technetium 99	14133-76-7	6.4	1.8	4	5	B	TC
Tritium	10028-17-8	580	160	200	400		H
Carbon 14	14762-75-5	-22	17	30	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		100		U	GAM
Iron 59	14596-12-4	U		30	30	U	GAM
Cobalt 60	10198-40-0	U		20	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		20		U	GAM
Ruthenium 103	13968-53-1	U		10		U	GAM
Ruthenium 106	13967-48-1	U		90		U	GAM
Tin 113	13966-06-8	U		10		U	GAM
Cesium 134	13967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		50		U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-63-3	U		30		U	GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

TMA NORCAL
REPORTING GROUP 7217

N307119-07

DATA SHEET, cont

B08Y81

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-07	Client sample id	B08Y81
Dept sample id	7217-007	Location/Matrix	100-FR-3 LIQUID
Received	07/30/93	Collected	07/28/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	7440-29-1	U		50		U	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-07	80A/80	7217-007		0.300 L	08/10/93	08/12/93	DPK
N307119-07	80B/80	7217-007		0.300 L	08/10/93	08/12/93	DPK
N307119-07	U	7217-007		1.00 L	08/26/93	08/30/93	DPK
N307119-07	PU	7217-007		1.00 L	08/18/93	08/23/93	DPK
N307119-07	AM	7217-007		1.00 L	08/23/93	08/25/93	DPK
N307119-07	Y	7217-007		1.00 L	08/24/93	08/27/93	DPK
N307119-07	TC	7217-007		0.200 L	08/26/93	08/30/93	DPK
N307119-07	H	7217-007		0.0100 L	08/16/93	09/14/93	DPK
N307119-07	C	7217-007		0.0300 L	09/11/93	09/15/93	DPK
N307119-07	GAM	7217-007		0.500 L	08/13/93	03/29/96	DPK

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

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N307119-08

TMA NORCAL
REPORTING GROUP 7217

DATA SHEET

B08Y86

SDG 7217 | Client Westinghouse Hanford
Contact Dinkar Kharkar | Contract MBH-SVV-069262

Lab sample id N307119-08 | Client sample id B08Y86
Dept sample id 7217-008 | Location/Matrix 100-FR-3 LIQUID
Received 07/30/93 | Collected 07/28/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	1.1	1.6	2	3	U	80A
Gross Beta	Beta	6.4	1.5	2	4	B	80B
Uranium 233/234		1.9	0.28	0.08	0.2		U
Uranium 235	15117-96-1	0.10	0.068	0.06	0.2	J	U
Uranium 238	7440-61-1	1.5	0.24	0.05	0.2		U
Plutonium 238	13981-16-3	-0.002	0.026	0.05	0.05	U	PU
Plutonium 239/240		-0.004	0.009	0.03	0.05	U	PU
Americium 241	14596-10-2	0.002	0.015	0.03	0.05	U	AM
Strontium 90	10098-97-2	0	1.6	0.9	2	U	Y
Technetium 99	14133-76-7	4.5	1.0	2	5	BJ	TC
Tritium	10028-17-8	1300	190	200	400		H
Carbon 14	14762-75-5	-57	20	40	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		200		U	GAM
Iron 59	14596-12-4	U		30	30	U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		30		U	GAM
Ruthenium 103	13968-53-1	U		20		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		20		U	GAM
Cesium 134	13967-70-9	U		20		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		70		U	GAM
Europium 152	14683-23-9	U		30	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-63-3	U		20		U	GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

9713508.1582

TMA NORCAL
REPORTING GROUP 7217

N307119-08

DATA SHEET, cont

B08Y86

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-08	Client sample id	B08Y86
Dept sample id	7217-008	Location/Matrix	100-FR-3 LIQUID
Received	07/30/93	Collected	07/28/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	7440-29-1	U		60		U	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-08	80A/80	7217-008		0.300 L	08/10/93	08/12/93	DPK
N307119-08	80B/80	7217-008		0.300 L	08/10/93	08/12/93	DPK
N307119-08	U	7217-008		1.00 L	08/27/93	08/31/93	DPK
N307119-08	PU	7217-008		1.00 L	08/18/93	08/23/93	DPK
N307119-08	AM	7217-008		1.00 L	08/18/93	08/23/93	DPK
N307119-08	Y	7217-008		1.00 L	08/24/93	08/26/93	DPK
N307119-08	TC	7217-008		0.200 L	08/27/93	08/31/93	DPK
N307119-08	H	7217-008		0.0100 L	08/16/93	09/14/93	DPK
N307119-08	C	7217-008		0.0300 L	09/11/93	09/15/93	DPK
N307119-08	GAM	7217-008		0.500 L	08/13/93	03/29/96	DPK

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

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N307119-01

TMA NORCAL
REPORTING GROUP 7217

DATA SHEET

B08Y91

SDG 7217 Client Westinghouse Hanford
Contact Dinkar Kharkar Contract MBH-SVV-069262

Lab sample id N307119-01 Client sample id B08Y91
Dept sample id 7217-001 Location/Matrix 10-FR-3 LIQUID
Received 07/27/93 Collected 07/24/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	5.5	2.5	2	3		80A
Gross Beta	Beta	8.3	1.9	3	4	B	80B
Uranium 233/234		9.3	0.89	0.1	0.2		U
Uranium 235	15117-96-1	0.46	0.12	0.07	0.2		U
Uranium 238	7440-61-1	8.6	0.83	0.09	0.2		U
Plutonium 238	13981-16-3	-0.002	0.007	0.02	0.05	U	PU
Plutonium 239/240		0.002	0.004	0.01	0.05	U	PU
Americium 241	14596-10-2	-0.011	0.011	0.03	0.05	U	AM
Strontium 90	10098-97-2	41	1.6	0.9	2		Y
Technetium 99	14133-76-7	6.6	1.1	2	5	B	TC
Tritium	10028-17-8	1900	210	200	400		H
Carbon 14	14762-75-5	-30	19	30	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		100		U	GAM
Iron 59	14596-12-4	U		30	30	U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		30		U	GAM
Ruthenium 103	13968-53-1	U		20		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		10		U	GAM
Cesium 134	13967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		50		U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-63-3	U		20		U	GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

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TMA NORCAL
REPORTING GROUP 7217

N307119-01

DATA SHEET, cont

B08Y91

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-01	Client sample id	B08Y91
Dept sample id	7217-001	Location/Matrix	10-FR-3 LIQUID
Received	07/27/93	Collected	07/24/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	7440-29-1	U		50		U	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-01	80A/80	7217-001		0.300 L	08/11/93	08/13/93	DPK
N307119-01	80B/80	7217-001		0.300 L	08/11/93	08/13/93	DPK
N307119-01	U	7217-001		1.00 L	08/20/93	08/25/93	DPK
N307119-01	PU	7217-001		1.00 L	08/16/93	08/18/93	DPK
N307119-01	AM	7217-001		1.00 L	08/17/93	08/23/93	DPK
N307119-01	Y	7217-001		1.00 L	08/24/93	08/31/93	DPK
N307119-01	TC	7217-001		0.200 L	08/26/93	08/27/93	DPK
N307119-01	H	7217-001		0.0100 L	08/16/93	09/14/93	DPK
N307119-01	C	7217-001		0.0300 L	09/10/93	09/15/93	DPK
N307119-01	GAM	7217-001		0.500 L	08/11/93	03/29/96	DPK

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

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N307119-02

TMA NORCAL
REPORTING GROUP 7217

DATA SHEET

B08YC5

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-02	Client sample id	B08YC5
Dept sample id	7217-002	Location/Matrix	100-FR-3 LIQUID
Received	07/27/93	Collected	07/24/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	1.2	1.8	2	3	U	80A
Gross Beta	Beta	1.2	1.7	3	4	U	80B
Uranium 233/234		10	1.0	0.1	0.2		U
Uranium 235	15117-96-1	0.53	0.14	0.08	0.2		U
Uranium 238	7440-61-1	10	1.0	0.1	0.2		U
Plutonium 238	13981-16-3	0.002	0.004	0.01	0.05	U	PU
Plutonium 239/240		0.004	0.004	0.01	0.05	U	PU
Americium 241	14596-10-2	0.017	0.034	0.06	0.05	U	AM
Strontium 90	10098-97-2	-0.002	1.6	0.7	2	U	Y
Technetium 99	14133-76-7	14	1.4	2	5	B	TC
Tritium	10028-17-8	1900	210	200	400		H
Carbon 14	14762-75-5	-49	21	40	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		300		U	GAM
Iron 59	14596-12-4	U		40	30	U	GAM
Cobalt 60	10198-40-0	U		20	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		40		U	GAM
Ruthenium 103	13968-53-1	U		20		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		20		U	GAM
Cesium 134	13967-70-9	U		20		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		70		U	GAM
Europium 152	14683-23-9	U		30	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-63-3	U		30		U	GAM

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

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TMA NORCAL
REPORTING GROUP 7217

N307119-02

DATA SHEET, cont

B08YC5

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-02	Client sample id	B08YC5
Dept sample id	7217-002	Location/Matrix	100-FR-3 LIQUID
Received	07/27/93	Collected	07/24/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Thorium 228	14274-82-9	23	21				GAM
Thorium 232	7440-29-1	81	59				GAM
G£mma RA228		81	59				GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-02	80A/80	7217-002		0.300 L	08/10/93	08/12/93	DPK
N307119-02	80B/80	7217-002		0.300 L	08/10/93	08/12/93	DPK
N307119-02	U	7217-002		1.00 L	08/20/93	08/25/93	DPK
N307119-02	PU	7217-002		1.00 L	08/16/93	08/18/93	DPK
N307119-02	AM	7217-002		1.00 L	08/17/93	08/20/93	DPK
N307119-02	Y	7217-002		1.00 L	08/24/93	08/26/93	DPK
N307119-02	TC	7217-002		0.200 L	08/26/93	08/27/93	DPK
N307119-02	H	7217-002		0.0100 L	08/16/93	09/14/93	DPK
N307119-02	C	7217-002		0.0300 L	09/10/93	09/15/93	DPK
N307119-02	GAM	7217-002		0.500 L	08/11/93	03/29/96	DPK

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

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N307119-03

TMA NORCAL
REPORTING GROUP 7217

DATA SHEET

B08YD0

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-03	Client sample id	B08YD0
Dept sample id	7217-003	Location/Matrix	100-FR-3 LIQUID
Received	07/27/93	Collected	07/23/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	0.53	0.97	1	3	U	80A
Gross Beta	Beta	0.53	1.2	2	4	U	80B
Uranium 233/234		0	0.059	0.1	0.2	U	U
Uranium 235	15117-96-1	0.018	0.036	0.1	0.2	U	U
Uranium 238	7440-61-1	0.015	0.030	0.1	0.2	U	U
Plutonium 238	13981-16-3	0.002	0.003	0.01	0.05	U	PU
Plutonium 239/240		0.002	0.007	0.01	0.05	U	PU
Americium 241	14596-10-2	0.011	0.015	0.02	0.05	U	AM
Strontium 90	10098-97-2	0.084	0.20	0.8	2	U	Y
Technetium 99	14133-76-7	10	1.3	2	5	B	TC
Tritium	10028-17-8	110	140	200	400	U	H
Carbon 14	14762-75-5	-53	20	30	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		100		U	GAM
Iron 59	14596-12-4	U		30	30	U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		30		U	GAM
Ruthenium 103	13968-53-1	U		10		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		20		U	GAM
Cesium 134	13967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		60		U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		10	40	U	GAM
Radium 226	13982-63-3	U		30		U	GAM

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

TMA NORCAL
REPORTING GROUP 7217

N307119-03

DATA SHEET, cont

B08YD0

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-03	Client sample id	B08YD0
Dept sample id	7217-003	Location/Matrix	100-FR-3 LIQUID
Received	07/27/93	Collected	07/23/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	7440-29-1	U		50		U	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-03	80A/80	7217-003		0.300 L	08/10/93	08/12/93	DPK
N307119-03	80B/80	7217-003		0.300 L	08/10/93	08/12/93	DPK
N307119-03	U	7217-003		1.00 L	08/26/93	08/30/93	DPK
N307119-03	PU	7217-003		1.00 L	08/16/93	08/18/93	DPK
N307119-03	AM	7217-003		1.00 L	08/17/93	08/23/93	DPK
N307119-03	Y	7217-003		1.00 L	08/24/93	08/26/93	DPK
N307119-03	TC	7217-003		0.200 L	08/26/93	08/27/93	DPK
N307119-03	H	7217-003		0.0100 L	08/16/93	09/14/93	DPK
N307119-03	C	7217-003		0.0300 L	09/10/93	09/15/93	DPK
N307119-03	GAM	7217-003		0.500 L	08/11/93	03/29/96	DPK

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

9713508.1589

N307119-04

TMA NORCAL
REPORTING GROUP 7217

DATA SHEET

B08YD5

SDG 7217 Client Westinghouse Hanford
Contact Dinkar Kharkar Contract MBH-SVV-069262

Lab sample id N307119-04 Client sample id B08YD5
Dept sample id 7217-004 Location/Matrix 100-FR-3 LIQUID
Received 07/27/93 Collected 07/23/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	-0.26	1.4	2	3	U	80A
Gross Beta	Beta	-0.19	1.1	2	4	U	80B
Uranium 233/234		0.011	0.044	0.08	0.2	U	U
Uranium 235	15117-96-1	0.027	0.027	0.1	0.2	U	U
Uranium 238	7440-61-1	0.022	0.022	0.08	0.2	U	U
Plutonium 238	13981-16-3	0	0.003	0.01	0.05	U	PU
Plutonium 239/240		0	0.003	0.01	0.05	U	PU
Americium 241	14596-10-2	-0.002	0.014	0.03	0.05	U	AM
Strontium 90	10098-97-2	0.097	0.21	0.8	2	U	Y
Technetium 99	14133-76-7	5.8	1.0	2	5	B	TC
Tritium	10028-17-8	78	130	200	400	U	H
Carbon 14	14762-75-5	-40	19	30	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		100		U	GAM
Iron 59	14596-12-4	U		40	30	U	GAM
Cobalt 60	10198-40-0	U		20	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		30		U	GAM
Ruthenium 103	13968-53-1	U		10		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		10		U	GAM
Cesium 134	13967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		60		U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-63-3	U		20		U	GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

TMA NORCAL
REPORTING GROUP 7217

N307119-04

DATA SHEET, cont

B08YD5

SDG 7217 Client Westinghouse Hanford
Contact Dinkar Kharkar Contract MBH-SVV-069262

Lab sample id N307119-04 Client sample id B08YD5
Dept sample id 7217-004 Location/Matrix 100-FR-3 LIQUID
Received 07/27/93 Collected 07/23/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	7440-29-1	U		50		U	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-04	80A/80	7217-004		0.300 L	08/10/93	08/12/93	DPK
N307119-04	80B/80	7217-004		0.300 L	08/10/93	08/12/93	DPK
N307119-04	U	7217-004		1.00 L	08/26/93	08/30/93	DPK
N307119-04	PU	7217-004		1.00 L	08/16/93	08/18/93	DPK
N307119-04	AM	7217-004		1.00 L	08/17/93	08/20/93	DPK
N307119-04	Y	7217-004		1.00 L	08/24/93	08/26/93	DPK
N307119-04	TC	7217-004		0.200 L	08/26/93	08/27/93	DPK
N307119-04	H	7217-004		0.0100 L	08/16/93	09/14/93	DPK
N307119-04	C	7217-004		0.0300 L	09/10/93	09/15/93	DPK
N307119-04	GAM	7217-004		0.500 L	08/12/93	03/29/96	DPK

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

9713508.1591

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/24/93

Ice Chest No GW5005

Field Logbook No. EFL-1055

Bill of Lading/Airbill No. 2 921537337

Offsite Property No. W93-0-0585-30

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Sample Identification

BO 8Y91

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

BO 8Y92

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

BO 8Y93

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

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

Relinquished By	Date	Time	Received By	Date	Time
Thby KD Lee K.D. Lee	7/24/93	1400	AJSimpson AJ SIMPSON	7/26/93	0819
AJSimpson AJ SIMPSON	7/26/93	0819	tlby H. Yamamoto	7/27/93	11:10

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: rel'ng to f.g. # 28 by K.D. Lee 7/24/93 1400

A-6000-407 (12/92) WEF061

9713508.1592

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/24/93 Time 0845 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8Y91	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO 8Y92	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO 8Y93	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2521531337 OPC #: W93-0-0585-30

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Elby K. Yamamoto Title Sample Control Tech. II Date 7-27-93

Analysis Required

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

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

A-6000-406(05/90)

9713508.1593

Westinghouse Hanford Company

CHAIN OF CUSTODY

COPY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/24/93

Ice Chest No. 6WS030

Field Logbook No. EPL-1055

Bill of Lading/Airbill No. 2521531337

Offsite Property No. W93-0-0585-30

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Sample Identification

BO 8YC5

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

BO 8YC6

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

BO 8YC7

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

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
Patty Butcher K.D. Lee	7/24/93	1400	AJ Simpson AJ SIMPSON	7/26/93	0823
AJ Simpson AJ SIMPSON	7/26/93	0823	Elby K. Yamamoto	7/27/93	11:10

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relinq. to Sig. # 2C by K.D. Lee 7/24/93 1400

A-6000-407 (12/92) WEF061

9713508.1594

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/24/93 Time 0845 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8YC5	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO 8YC6	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO 8YC7	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2521537337 OPC #: 0U93-0-0585-30

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Elky H. Yamamoto Title Sample Control Tech II Date 7-27-93

Analysis Required

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

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

A-6000-406(05/90)

9713508.1595

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/23/93

Ice Chest No. GWS026

Field Logbook No. EFL-1055

Bill of Lading/Airbill No. 2521537337

Offsite Property No. W93-0-0585-29

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Sample Identification

BO 8YD0

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./
ALPHA SPEC.(to include U-235/238,Pu-239/240,
Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

BO 8YD1

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

BO 8YD2

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

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

Relinquished By	Date	Time	Received By	Date	Time
K. Trapp/K. Trapp	7/23/93	1145	AJ Simpson AJ SIMPSON	7/26/93	0829
AJ Simpson AJ SIMPSON	7/26/93	0829	Elby H. Yamamoto	7/27/93	11:10

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: Set in Frig 3 on 7/23/93 at 1223

A-6000-407 (12/92) WEF061

9713508.1596

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/23/93 Time 1020 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B0 8YD0	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
B0 8YD1	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
B0 8YD2	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2521537337 OPC #: NG-0-0585-29

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Elby Y. Yamamoto Title Sample Control Tech II Date 7-27-93

Analysis Required

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

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

A-6000-406(05/90)

9213508.1597

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/23/93

Ice Chest No. GWS028

Field Logbook No. EFL-1055

Bill of Lading/Airbill No. 2582153733 7

Offsite Property No. W93- 0 -0585-29

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Sample Identification

BO 8YD5

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

BO 8YD6

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

BO 8YD7

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

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

Relinquished By	Date	Time	Received By	Date	Time
Rec by K.D. Lee K.D. Lee	7/23/93	1325	AJ Simpson AJ SIMPSON	7/26/93	0831
AJ Simpson AJ SIMPSON	7/26/93	0832	Rec by K. Yamamoto	7/27/93	11:10

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relinq. to frig. #2C by K.D. Lee 7/23/93 1325

A-6000-407 (12/92) WEF061

9713508.1598

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/23/93 Time 1018 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8YD5	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO 8YD6	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO 8YD7	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: D52153733 7 OPC #: W93-0-0585-29

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by tlby H. Yamamoto Title Sample Control Tech. II Date 7-27-93

Analysis Required

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

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

A-6000-406(05/90)

9713508.1599

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-FR-3

Ice Chest No. TLC

Bill of Lading/Airbill No. 2519008822

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 7/23/93

Field Logbook No. TEFC-7055

Offsite Property No. W93-0-0585-31

Sample Identification

B08Y16

- ~~3~~, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0) — ARLI
- ~~1~~, 2L & ~~1~~, 1L, aG; WATER; CLP-SEMI VOA
- ~~1~~, 2L & 1, ~~1L~~, aG; WATER; CLP-PCB's/PEST(pH 5-9)
- ~~1~~, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
- ~~1~~, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0) — SS
- ~~1~~, 250ml, P, WATER; ALKALINITY — ARLI
- ~~1~~, 500ml, P, WATER; TDS
- ~~1~~, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
- ~~1~~, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0) ARLI
- ~~1~~, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED SS
- ~~1~~, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0) SS
- ~~1~~, 1L, P, WATER; Cn(NaOH to pH 12.0) SS
- ~~1~~, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0) — STAY
- ~~1~~, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0) — STAY
- ~~1~~, 250ml, Gs, WATER; TRITIUM/C-14 — STAY

B08Y17

- ~~1~~, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED SS

B08Y18

- ~~3~~, 40ml, Gs, WATER; CLP-VOA - ARLI

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

Relinquished By	Date	Time	Received By	Date	Time
Kathy D. Lee K.D. Lee	7/23/93	1324	PC Cole PC Cole	7/27/93	0820
PC Cole PC Cole	7/27/93	0820	Kermit Blum K. Blum	7-28-93	1115

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: reling. to frig. # 3A by K.D. Lee 7/23/93 1324

A-6000-407 (12/92) WEF061

9213508.1600

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/23/93 Time 0929 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8Y16	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO 8Y17	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO 8Y18	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2519008822 OPC #: W93-0-0585-31

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 7-28-93

Analysis Required

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

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

VIL 90

A-6000-406(05/90)

9713508.1601

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-FR-3

Ice Chest No. SML-119

Bill of Lading/Airbill No. 2519009449

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 7/28/93

Field Logbook No. EFL-1055

Offsite Property No. W93-0-0585-32

Sample Identification

B08Y11

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

B08Y12

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

B08Y13

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

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

Relinquished By	Date	Time	Received By	Date	Time
K.D. Lee K.D. Lee	7/28/93	1249	PC Cole PC Cole	7/29/93	0821
PC Cole PC Cole	7/29/93	0821	Kermit Blum K. Blum	7/30/93	2:30

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

relinq. to frig. # 3A by K.D. Lee 7/28/93 1249

Bubbles Present B08Y13 CLP VOA's PCC 7/29/93

* Bubbles in one VOA vial B08Y13 received @ TMA/NORCAL. KB

A-6000-407 (12/92) WEF061

9713508.1602

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/28/93 Time 1048 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO8Y11	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO8Y12	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO8Y13	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2519009449 OPC #: W93-0-0585-32

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 7/30/93

Analysis Required

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

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

A-6000-406(05/90)

9213508.1603

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-FR-3

Ice Chest No. NJ320

Bill of Lading/Airbill No. 2519009449

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 7/28/93

Field Logbook No. EFL-1055

Offsite Property No. W93-0-0585-32

Sample Identification

B0 8Y81

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

B0 8Y82

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

B0 8Y83

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

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

Relinquished By	Date	Time	Received By	Date	Time
[illegible] K.D. Lee	7/28/93	1249	PC Cole PC Cole	7/29/93	0818
PC Cole PC Cole	7/29/93	0818	Kermit Blum K. Blum	7/30/93	2:30 PM

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relng to frg. # 3A by K.D. Lee 7/28/93 1249

Bubbles Present B08Y83 CLP VOA's PCC 7/29/93

A-6000-407 (12/92) WEF061

93

9713508.1604

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/28/93 Time 0944 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8Y81	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO 8Y82	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO 8Y83	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2519009449 OPC #: W93-0-0585-32

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 7/30/93

Analysis Required

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

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

A-6000-406(05/90)

9713508.1605

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/28/93

Ice Chest No. SML-94

Field Logbook No. EFL-1055

Bill of Lading/Airbill No. 2519009449

Offsite Property No. W93-0-0585-33

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Sample Identification

BO 8986

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./
ALPHA SPEC.(to include U-235/238,Pu-239/240,
Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

BO 8987

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

BO 8988

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

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

Relinquished By	Date	Time	Received By	Date	Time
~~Kathy~~ K.D. Lee K.D. Lee	7/28/93		PC Cole PC Cole	7/29/93	0826
PC Cole PC Cole	7/29/93	0826	Kermit Blum K. Blum	7/30/93	8:30 PM

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relng. to frig. # 3C by K.D Lee 7/28/93 1348

A-6000-407 (12/92) WEF061

9713508.1606

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/28/93 Time 0841 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8986	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO 8987	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO 8988	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2519009449 OPC #: W93-D-0585-33

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 7/30/93

Analysis Required

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

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

A-6000-406(05/90)

9213508.1607

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-FR-3

Ice Chest No. SML-80

Bill of Lading/Airbill No. 2519009460

Method of Shipment EMERY

Shipped to TMA

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 7/30/93

Field Logbook No. EFL-1055

Offsite Property No. W93-0-0585-35

Sample Identification

B08Y21

3, 40ml, Gs, WATER; CLP-VOA(HCl to pH<2.0)
1, 2L & 1, 1L, aG; WATER; CLP-SEMI VOA
1, 2L & 1, 1L, aG; WATER; CLP-PCB's/PEST(pH 5-9)
1, 1L, P, WATER; ANIONS(IC) SO4,F,PO4,Cl/COND./pH
1, 500ml, P, WATER; NO2-NO3 (H2SO4 to pH<2.0)
1, 250ml, P, WATER; ALKALINITY
1, 500ml, P, WATER; TDS
1, 500ml, G, WATER; SULFIDE (Zink Acetate + NaOH pH>9)
1, 1L, G, WATER; AMMONIA/CHEMICAL OXYGEN DEMAND (H2SO4 pH<2.0)
1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) UNFILTERED
1, 1L, P, WATER; CLP-ARSENIC/LEAD/SELENIUM/THAILIUM, Hg(HNO3 to pH<2.0)
1, 1L, P, WATER; Cn(NaOH to pH 12.0)
1, 4L, G/P, WATER; GROSS ALPHA/GROSS BETA/GAMMA SPEC./ ALPHA SPEC.(to include U-235/238,Pu-239/240, Am-241), Sr-90 (HNO3 to pH<2.0)
1, 1L, G/P,WATER; Tc-99 (HCl to pH<2.0)
1, 250ml, Gs, WATER; TRITIUM/C-14

B08Y22

1, 1L, P, WATER; ICP METALS(HNO3 to pH<2.0) FILTERED

B08Y23

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

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

Relinquished By	Date	Time	Received By	Date	Time
K.D. Lee K.D. Lee	7/30/93	1021	AJ Simpson AJ SIMPSON	8/2/93	0811
AJ Simpson AJ SIMPSON	8/2/93	0811	Mark M Clark TMA	8-3-93	~~1246~~ 1130 8-3-93 K

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: rel'ng. to fr.g. # 3A by K.D. Lee 7/30/93 1021

A-6000-407 (12/92) WEF061

9213508.1608

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. LEE, G. HAMILTON Date Sampled 7/30/93 Time ____ hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8Y21	3; 40ml; Gs*;	WATER	CLP-VOA(HCl to pH<2.0)
	1; 2L & 1; 1L; aG;	WATER	CLP-SEMI VOA
	1; 2L & 1; 1L; aG;	WATER	CLP-PCB's/PEST(pH 5-9)
	1; 1L; P	WATER	ANIONS(IC) SO4, F, Cl, PO4, COND., pH
	1; 500ml; P;	WATER	NO2, NO3(H2SO4 to pH<2.0)
	1; 250ml; P;	WATER	ALKALINITY
	1; 500ml; G;	WATER	TDS
	1; 500ml; G;	WATER	SULFIDE(ZINC ACETATE + NaOH pH>9)
	1; 1L; G;	WATER	AMMONIA, COD(H2SO4 to pH<2.0)
	1; 1L; P;	WATER	CLP-ICP METALS(HNO3 to pH<2.0)UNFILTERED
	1; 1L; P;	WATER	ARSENIC/LEAD/SELENIUM/THALLIUM, Hg(HNO3 pH<2)
	1; 1L; P;	WATER	Cn(NaOH to pH<2.0)
	1; 4L; G/P;	WATER	GROSS ALPHA/BETA,GAMMA SPEC,ALPHA SPEC:U-235/
			U-238,Pu-239/240, Am-241, Sr-90(HNO3 pH<2.0)
	1; 1L; G/P;	WATER	Tc-99(HCl to pH<2.0)
	1; 250ml; Gs	WATER	TRITIUM, C14
BO 8Y22	1; 1L; P	WATER	CLP-ICP METALS(HNO3 pH<2.0)FILTERED
BO 8Y23	4; 40ml; Gs	WATER	CLP-VOA

Field Information** TASK #: 93-174 BOL #: 2519009460 OPC #: W93-0-0585-3

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 8-3-93

Analysis Required

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

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

A-6000-406(05/90)

9713508.1609

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-FR-3

Collection Date 7/30/93

Ice Chest No. SMC-80

Field Logbook No. EPL-1055

Bill of Lading/Airbill No. 2519009460

Offsite Property No. W93-0-0585-35

Method of Shipment EMERY

Shipped to ~~WESTON~~ TMA

Possible Sample Hazards/Remarks

Sample Identification

B08Y24

1, 125ml, aGs, WATER; TOC(H2SO4 to pH<2.0)

1, 500ml, aGs, WATER; TOX(HNO3 to pH<2.0)

[] Field Transfer of Custody

Chain of Possession

(Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
K.D. Lee K.D. Lee	7/30/93	1021	AJ Simpson AJ SIMPSON	8/2/93	0812
AJ Simpson AJ SIMPSON	8/2/93	0812	TMA	8-3-93	~~1245~~ 1130 8-3-93 KL

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relinq to trig. #3A by K.D. Lee 7/30/93 1021

A-6000-407 (12/92) WEF061

9713508.1610

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, L. Walker Date Sampled 7/30/93 Time _____ hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8424	1; 125ml; aGs	WATER	TOC (H2SO4 to pH<2.0)
	1; 250ml; aGs	WATER	TOX (HNO3 to pH<2.0)
			OPC: # W93-0-0585-55
			BOL: # 2519009460
			TASK#: 93-174

Field Information** _____

Special Handling and/or Storage _____

Possible Sample Hazards _____

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 8-3-95

Analysis Required _____

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

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

100

A-6000-406(05/90)

9713508.1611

VALIDATION SUMMARY

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30730M06

Level: (low/med) LOW Date Received: 07/28/93

% Moisture: not dec. ____ Date Analyzed: 07/30/93

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	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

NV 10/23/93 SC

9713508.1613

000006

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08Y16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30730M06

Level: (low/med) LOW Date Received: 07/28/93

% Moisture: not dec. ____ Date Analyzed: 07/30/93

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
10/26/93 SS

9713508.1614

000007

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y18

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30730M03

Level: (low/med) LOW Date Received: 07/28/93

% Moisture: not dec. ____ Date Analyzed: 07/30/93

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	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

NV 10/23/93 SC

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08Y18

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30730M03

Level: (low/med) LOW Date Received: 07/28/93

% Moisture: not dec. ____ Date Analyzed: 07/30/93

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 10/26/93 SC

9713508.1616

000009

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I10

Level: (low/med) LOW Date Received: 07/29/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/30/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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 10/26/93 SC

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I10

Level: (low/med) LOW Date Received: 07/29/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/30/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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 10/26/93 SL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08Y16

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307077-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I10

Level: (low/med) LOW Date Received: 07/29/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/30/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9713508.1619

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000012

EPA SAMPLE NO.

B08Y16

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 07077 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A307077-01E

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

Moisture: _____ decanted: (Y/N) ___ Date Received: 07/28/93

xtraction: (SepF/Cont/Sonc) CONT Date Extracted: 07/30/93

oncentrated Extract Volume: 10000 (uL) Date Analyzed: 08/14/93

njection Volume: 1.00 (uL) Dilution Factor: 1.00

PC 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

NU 10/26/93 SC

9713508.1620

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y17

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

Lab Code: SKINER Case No.: N3-07-123SAS No.: SDG No.: B08Y17

Matrix (soil/water): WATER Lab Sample ID: 07293-015

Level (low/med): LOW Date Received: 07/29/93

% 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	20.9	U		P
7440-36-0	Antimony	15.7	U		P
7440-38-2	Arsenic	2.7	U	W	F
7440-39-3	Barium	23.2	B		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	32100			P
7440-47-3	Chromium	5.1	U		P
7440-48-4	Cobalt	2.5	U		P
7440-50-8	Copper	5.0	B		P
7439-89-6	Iron	24.4	B		P
7439-92-1	Lead	1.9	U		F
7439-95-4	Magnesium	5250			P
7439-96-5	Manganese	1.6	U		P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	4.7	U		P
7440-09-7	Potassium	2130	B		P
7782-49-2	Selenium	3.7	U	MWN	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	3220	B		P
7440-28-0	Thallium	2.0	U	N	F
7440-62-2	Vanadium	3.0	B		P
7440-66-6	Zinc	3.7	U		P
	Cyanide				NR

NV 10/26/93 SC

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

002

9713508.1621

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y16

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

Lab Code: SKINER Case No.: N3-07-123SAS No.: SDG No.: B08Y16

Matrix (soil/water): WATER Lab Sample ID: 07292-01S

Level (low/med): LOW Date Received: 07/29/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	2.8	U		F
7440-39-3	Barium	25.0	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	31700			P
7440-47-3	Chromium	4.1	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	7.5	B		P
7439-89-6	Iron	132			P
7439-92-1	Lead	1.4	U		F
7439-95-4	Magnesium	5100			P
7439-96-5	Manganese	1.7	B		P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	1990	B		P
7782-49-2	Selenium	2.4	U	W	F
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	3100	B		P
7440-28-0	Thallium	3.0	U	WN	F
7440-62-2	Vanadium	2.3	U		P
7440-66-6	Zinc	4.4	B		P
	Cyanide	10.0	U		CA

NV 10/21/93

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

002

FORM I - IN ILM02.1

TMA Inc. REPORT Work Order # A3-07-077

Received: 07/29/93 Results by Sample

SAMPLE ID B08Y16 FRACTION 01H TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	1.6	mg/L	0.2
Fluoride	300.0	0.1	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	7.8	pH	0.1
Sulfate	300.0	20	mg/L	1
Elect. Conductivity	9050	221	umho/cm	6

FORM I

NV 10/26/93

TMA Inc. REPORT Work Order # A3-07-077

eceived: 07/29/93 Results by Sample

AMPLE ID B08Y16 FRACTION 01K TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	85	mg/L	2

FORM I

NV 10/26/93

TMA Inc. REPORT Work Order # A3-07-077

eceived: 07/29/93

Results by Sample

AMPLE ID B08Y16 FRACTION 01M TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	154	mg/L	5

FORM I

NV
10/26/93 JC

TMA Inc. REPORT Work Order # A3-07-077

:eceived: 07/29/93 Results by Sample

AMPLE ID 808Y16 FRACTION 010 TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

NV 10/26/93

TMA Inc. REPORT Work Order # A3-07-077

eceived: 07/29/93

Results by Sample

AMPLE ID 808Y16 FRACTION 01R TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

NVL 10/20/93

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y21

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R13

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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	16	
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	32	
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	3	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	
591-78-6	2-Hexanone	10	
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

NV 8/ 10/12/93

9713508.1628

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08Y21

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R13

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.37	6	J

9713508.1629

000115

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y23

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R14

Level: (low/med) LOW Date Received: 08/03/93

Moisture: not dec. ____ Date Analyzed: 08/10/93

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	12	
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	5	J
591-78-6	2-Hexanone	9	J
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

NN 10/12/93

9713508.1630

1E

000116

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B08Y23

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R14

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.37	11	BJ

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y21

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30809I03

Level: (low/med) LOW Date Received: 08/03/93

Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/04/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/09/93

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 8/4 10/12/93

9713508.1632

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 000118

B08Y21

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30809I03

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 08/04/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/09/93

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	3	J
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 8/12/93

9713508.1635

000119

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B08Y21

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308008-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30809I03

Level: (low/med) LOW Date Received: 08/03/93

Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/04/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/09/93

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	10.73	7	J
2.	SUBSTITUTED PHENOL	22.88	6	J

9713508.1634

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y21

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A308008-01E

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

Moisture: _____ decanted: (Y/N) ___ Date Received: 08/03/93

xtraction: (SepF/Cont/Sonc) CONT Date Extracted: 08/04/93

oncentrated Extract Volume: 10000 (uL) Date Analyzed: 09/08/93

njection Volume: 1.00 (uL) Dilution Factor: 1.00

PC 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	0.95	
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 SC 10/12/93

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y21DL

b Name: TMA/ARLI Contract: WHC

b Code: TMALA Case No.: 08008 SAS No.: NA SDG No.: NA

trix: (soil/water) WATER Lab Sample ID: A308008-01ED

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

Moisture: _____ decanted: (Y/N) ___ Date Received: 08/03/93

traction: (SepF/Cont/Sonc) CONT Date Extracted: 08/04/93

ncentrated Extract Volume: 10000 (uL) Date Analyzed: 09/08/93

jection Volume: 1.00 (uL) Dilution Factor: 2.00

C 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	0.10	U
319-85-7	beta-BHC	0.10	U
319-86-8	delta-BHC	0.10	U
58-89-9	gamma-BHC (Lindane)	0.10	U
76-44-8	Heptachlor	0.86	D
309-00-2	Aldrin	0.10	U
1024-57-3	Heptachlor epoxide	0.10	U
959-98-8	Endosulfan I	0.10	U
60-57-1	Dieldrin	0.20	U
72-55-9	4,4'-DDE	0.20	U
72-20-8	Endrin	0.20	U
33213-65-9	Endosulfan II	0.20	U
72-54-8	4,4'-DDD	0.20	U
1031-07-8	Endosulfan sulfate	0.20	U
50-29-3	4,4'-DDT	0.20	U
72-43-5	Methoxychlor	1.0	U
53494-70-5	Endrin ketone	0.20	U
7421-36-3	Endrin aldehyde	0.20	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.10	U
8001-35-2	Toxaphene	10	U
12674-11-2	Aroclor-1016	2.0	U
11104-28-2	Aroclor-1221	4.0	U
11141-16-5	Aroclor-1232	2.0	U
53469-21-9	Aroclor-1242	2.0	U
12672-29-6	Aroclor-1248	2.0	U
11097-69-1	Aroclor-1254	2.0	U
11096-82-5	Aroclor-1260	2.0	U

9713508.1636

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y21

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

Lab Code: SKINER Case No.: N3-08-009SAS No.: SDG No.: B08Y21

Matrix (soil/water): WATER Lab Sample ID: 08026-01S

Level (low/med): LOW Date Received: 08/04/93

% 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	22.5	B		P
7440-36-0	Antimony	15.7	U		P
7440-38-2	Arsenic	1.7	U		P
7440-39-3	Barium	14.8	B		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	48500			P
7440-47-3	Chromium	5.1	U		P
7440-48-4	Cobalt	2.5	U		P
7440-50-8	Copper	4.0	U		P
7439-89-6	Iron	6590			P
7439-92-1	Lead	2.4	B		P
7439-95-4	Magnesium	13700			P
7439-96-5	Manganese	63.6			P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	5.5	B		P
7440-09-7	Potassium	3830	B		P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	6220			P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	2.6	U		P
7440-66-6	Zinc	38.1			P
	Cyanide	10.0	U		CA

NW
CK
10/12/93

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN ILM02.1

9713508.1637

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B08Y22

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

Lab Code: SKINER Case No.: N3-08-009SAS No.: SDG No.: B08Y22

Matrix (soil/water): WATER Lab Sample ID: 08027-01S

Level (low/med): LOW Date Received: 08/04/93

% 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	20.9	U		P
7440-36-0	Antimony	15.7	U		P
7440-38-2	Arsenic	1.7	U		P
7440-39-3	Barium	22.9	B		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	45800			P
7440-47-3	Chromium	5.1	U		P
7440-48-4	Cobalt	2.5	U		P
7440-50-8	Copper	4.0	U		P
7439-89-6	Iron	15.5	U		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	13000			P
7439-96-5	Manganese	49.3			P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	4.7	U		P
7440-09-7	Potassium	3570	B		P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	5850			P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	2.6	U		P
7440-66-6	Zinc	3.7	U		P
	Cyanide				NR

NV
8/
10/7/93

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN ILM02.1

TMA Inc. REPORT Work Order # A3-08-008

ceived: 08/04/93 Results by Sample

MPLE ID B08Y21 FRACTION 01M TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/30/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	5.0	mg/L	0.2
Fluoride	300.0	0.1	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	7.9	pH	0.1
Sulfate	300.0	78	mg/L	10
Elect. Conductivity	9050	378	umho/cm	6

FORM I

NV
SK
10/12/93

9713508.1639

000010

TMA Inc. REPORT Work Order # A3-08-008

ceived: 08/04/93

Results by Sample

MPLE ID B08Y21 FRACTION 01K TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/30/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	86	mg/L	2

FORM I

NV
SV
10/12/93

TMA Inc. REPORT Work Order # A3-08-008

ceived: 08/04/93

Results by Sample

MPLE ID B08Y21 FRACTION 01N TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/30/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	229	mg/L	5

FORM I

NV
10/12/93

9713508.1641

TMA Inc. REPORT Work Order # A3-08-008

:eived: 08/04/93 Results by Sample

PLE ID B08Y21 FRACTION 010 TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/30/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

NV
10/12/93

TMA Inc. REPORT Work Order # A3-08-008

:eived: 08/04/93 Results by Sample

IPLE ID B08Y21 FRACTION 01R TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/30/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	0.33	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

NV
SL
10/14/93

9713508.1695

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08Y24

CASE NO.: N3-08-009

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 04-Aug-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	<1	1	09-Aug-93
ORGANIC BROMIDE	<0.01	0.01	05-Aug-93
ORGANIC CHLORIDE	<0.01	0.01	05-Aug-93
ORGANIC IODIDE	<0.01	0.01	05-Aug-93

9713508.1644

000127

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y11

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A308001-01A

mple wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R08

evel: (low/med) LOW Date Received: 07/30/93

Moisture: not dec. ____ Date Analyzed: 08/10/93

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

il 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	2	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	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

NV 8/2 10/29/93

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08Y11

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A308001-01A

ample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R08

evel: (low/med) LOW Date Received: 07/30/93

Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.37	7	BJ

9713508.1646

000129

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y13

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A308001-02A

ample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R09

evel: (low/med) LOW Date Received: 07/30/93

Moisture: not dec. ____ Date Analyzed: 08/10/93

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

oil 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	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

NV SC 10/12/93

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08Y13

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R09

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.33	7	BJ

9713508.1648

000131

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y81

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A308001-03A

ample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R10

evel: (low/med) LOW Date Received: 07/30/93

Moisture: not dec. ____ Date Analyzed: 08/10/93

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

oil 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	3	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

NW 8/12/93

9713508.1649

000132
EPA SAMPLE NO.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B08Y81

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A308001-03A

ample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R10

evel: (low/med) LOW Date Received: 07/30/93

Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.37	7	BJ

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y83

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-04A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R05

Level: (low/med) LOW Date Received: 07/30/93

Moisture: not dec. ____ Date Analyzed: 08/10/93

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	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

NV 10/12/93

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08Y83

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A308001-04A

ample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R05

evel: (low/med) LOW Date Received: 07/30/93

Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.50	5	BJ

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y86

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A308001-05A

ample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R11

evel: (low/med) LOW Date Received: 07/30/93

Moisture: not dec. ____ Date Analyzed: 08/10/93

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

oil 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	3	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	5	J
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
CL
10/12/93

9713508.1653

000136
EPA SAMPLE NO.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B08Y86

ıb Name: TMA/ARLI Contract: WHC

ıb Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

ıtrix: (soil/water) WATER Lab Sample ID: A308001-05A

ımple wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R11

ɜvel: (low/med) LOW Date Received: 07/30/93

Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.37	10	BJ

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y88

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A308001-06A

ample wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R12

evel: (low/med) LOW Date Received: 07/30/93

Moisture: not dec. ____ Date Analyzed: 08/10/93

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

oil 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	19	
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	5	J
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
SC
10/12/93

9713508.1655

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08Y88

b Name: TMA/ARLI Contract: WHC

b Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

trix: (soil/water) WATER Lab Sample ID: A308001-06A

mple wt/vol: 5.0 (g/mL) ML Lab File ID: 30810R12

vel: (low/med) LOW Date Received: 07/30/93

Moisture: not dec. ____ Date Analyzed: 08/10/93

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

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

umber TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	1.37	9	BJ

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y11

.b Name: TMA/ARLI Contract: WHC

.b Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

.trix: (soil/water) WATER Lab Sample ID: A308001-01B

.mple wt/vol: 1000 (g/mL) ML Lab File ID: 30804I14

.vel: (low/med) LOW Date Received: 07/30/93

Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

.ncentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

.jection Volume: 2.0(uL) Dilution Factor: 1.0

.C 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.

B08Y11

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A308001-01B

ample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I14

evel: (low/med) LOW Date Received: 07/30/93

Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

oncentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

njection Volume: 2.0 (uL) Dilution Factor: 1.0

PC 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	4	BJ
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	2	J
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

NN 8/ 10/14/93

EPA SAMPLE NO.

B08Y11

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I14

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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	5.83	6	BJ
2.	PROPANOIC ACID ISOMER	13.23	3	J

9713508.1659

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000142 ~~000141~~

EPA SAMPLE NO.

B08Y81

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A308001-03B

ample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I17

evel: (low/med) LOW Date Received: 07/30/93

Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

oncentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

njection Volume: 2.0(uL) Dilution Factor: 1.0

PC 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 8/2 11/23

9713508.1660

000143

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y81

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-03B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I17

Level: (low/med) LOW Date Received: 07/30/93

Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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	2	BJ
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 8/12/93

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08Y81

ıb Name: TMA/ARLI Contract: WHC

ıb Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

ıtrix: (soil/water) WATER Lab Sample ID: A308001-03B

ımple wt/vol: 1000 (g/mL) ML Lab File ID: 30804I17

ɜvel: (low/med) LOW Date Received: 07/30/93

Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

ɔncentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

ıjection Volume: 2.0 (uL) Dilution Factor: 1.0

ᵊC Cleanup: (Y/N) N pH: ____

ımber TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9713508.1662

000145

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y86

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A308001-05B

ample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I18

evel: (low/med) LOW Date Received: 07/30/93

Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

oncentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

njection Volume: 2.0(uL) Dilution Factor: 1.0

PC 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

NW 11/1/93

9713508.1663

000146

1C

EPA SAMPLE NO

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B08Y86

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A308001-05B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I18

Level: (low/med) LOW Date Received: 07/30/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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	2	BJ
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.

B08Y86

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

.b Name: TMA/ARLI Contract: WHC

.b Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

.trix: (soil/water) WATER Lab Sample ID: A308001-05B

.mple wt/vol: 1000 (g/mL) ML Lab File ID: 30804I18

.vel: (low/med) LOW Date Received: 07/30/93

Moisture: _____ decanted: (Y/N) ___ Date Extracted: 08/02/93

ncentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

.jection Volume: 2.0(uL) Dilution Factor: 1.0

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

mber TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y11

b Name: TMA/ARLI Contract: WHC

b Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

trix: (soil/water) WATER Lab Sample ID: A308001-01E

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

Moisture: _____ decanted: (Y/N) ___ Date Received: 07/30/93

traction: (SepF/Cont/Sonc) CONT Date Extracted: 08/02/93

ncentrated Extract Volume: 10000 (uL) Date Analyzed: 08/14/93

jection Volume: 1.00 (uL) Dilution Factor: 1.00

C 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 10/12/93

9713508.1666

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 000149

B08Y81

b Name: TMA/ARLI Contract: WHC

b Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

trix: (soil/water) WATER Lab Sample ID: A308001-03C

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

Moisture: _____ decanted: (Y/N) ___ Date Received: 07/30/93

traction: (SepF/Cont/Sonc) CONT Date Extracted: 08/02/93

ncentrated Extract Volume: 10000 (uL) Date Analyzed: 08/14/93

jection Volume: 1.00 (uL) Dilution Factor: 1.00

C 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 8/ 10/12/93

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y86

) Name: TMA/ARLI Contract: WHC

) Code: TMALA Case No.: 08001 SAS No.: NA SDG No.: NA

:rix: (soil/water) WATER Lab Sample ID: A308001-05C

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

loisture: _____ decanted: (Y/N) ___ Date Received: 07/30/93

:raction: (SepF/Cont/Sonc) CONT Date Extracted: 08/02/93

.centrated Extract Volume: 10000 (uL) Date Analyzed: 08/14/93

ection Volume: 1.00 (uL) Dilution Factor: 1.00

: 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 8/ 10/12/93

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y11

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

Lab Code: SKINER Case No.: N3-07-134SAS No.: SDG No.: B08Y11

Matrix (soil/water): WATER Lab Sample ID: 08012-01S

Level (low/med): LOW Date Received: 08/03/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	11.7			P
7440-39-3	Barium	30.8	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	37000			P
7440-47-3	Chromium	8.0	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.4	B		P
7439-89-6	Iron	16.4	B		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	11700			P
7439-96-5	Manganese	1.1	B	E	P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	7.8	B		P
7440-09-7	Potassium	4100	B		P
7782-49-2	Selenium	4.0	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	48400			P
7440-28-0	Thallium	3.1	B		P
7440-62-2	Vanadium	19.4	B		P
7440-66-6	Zinc	8.4	B		P
	Cyanide	10.0	U		CA

NV
CK
10/12/93

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

002

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:
B08Y81

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

Lab Code: SKINER Case No.: N3-07-134SAS No.: SDG No.: B08Y11

Matrix (soil/water): WATER Lab Sample ID: 08012-02S

Level (low/med): LOW Date Received: 08/03/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	9.5	B		P
7440-39-3	Barium	25.6	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	59400			P
7440-47-3	Chromium	19.3			P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	36.6	B		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	17800			P
7439-96-5	Manganese	1.2	B	E	P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	6.8	B		P
7440-09-7	Potassium	6100			P
7782-49-2	Selenium	3.6	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	51800			P
7440-28-0	Thallium	2.0	B		P
7440-62-2	Vanadium	14.4	B		P
7440-66-6	Zinc	8.0	B		P
	Cyanide	10.0	U		CA

NV
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10/12/93

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713508.1670

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B08Y86

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

Lab Code: SKINER Case No.: N3-07-134SAS No.: SDG No.: B08Y11

Matrix (soil/water): WATER Lab Sample ID: 08012-03S

Level (low/med): LOW Date Received: 08/03/93

% 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	25.8	B		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	5.3	B		P
7440-39-3	Barium	47.5	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	70500			P
7440-47-3	Chromium	9.2	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	18.0	B		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	21500			P
7439-96-5	Manganese	46.5		E	P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	6.5	B		P
7440-09-7	Potassium	7590			P
7782-49-2	Selenium	4.0	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	72800			P
7440-28-0	Thallium	2.5	B		P
7440-62-2	Vanadium	9.7	B		P
7440-66-6	Zinc	7.7	B		P
	Cyanide	10.0	U		CA

NW
CN
10/12/93

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713508.1671

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B08Y12

Filtered

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

Lab Code: SKINER Case No.: N3-07-134SAS No.: SDG No.: B08Y12

Matrix (soil/water): WATER Lab Sample ID: 08014-01S

Level (low/med): LOW Date Received: 08/03/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	8.1	B		P
7440-39-3	Barium	29.9	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	36400			P
7440-47-3	Chromium	4.6	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	5.0	U		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	11500			P
7439-96-5	Manganese	1.1	B		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	4.6	B		P
7440-09-7	Potassium	4060	B		P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	47500			P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	20.8	B		P
7440-66-6	Zinc	6.8	B		P
	Cyanide				NR

NV
SV
10/12/93

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713508.1672

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B08Y82

Filtered

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

Lab Code: SKINER Case No.: N3-07-134SAS No.: SDG No.: B08Y12

Matrix (soil/water): WATER Lab Sample ID: 08014-02S

Level (low/med): LOW Date Received: 08/03/93

% 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	24.4	B		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	4.8	B		P
7440-39-3	Barium	34.6	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	59500			P
7440-47-3	Chromium	6.4	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	5.0	U		P
7439-92-1	Lead	5.1			P
7439-95-4	Magnesium	17900			P
7439-96-5	Manganese	1.1	B		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	6290			P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	52000			P
7440-28-0	Thallium	1.4	B		P
7440-62-2	Vanadium	13.8	B		P
7440-66-6	Zinc	6.8	B		P
	Cyanide				NR

NV 8/ 10/12/93

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713508.1673

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B08Y87

Filtered

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

Lab Code: SKINER Case No.: N3-07-134SAS No.: SDG No.: B08Y12

Matrix (soil/water): WATER Lab Sample ID: 08014-03S

Level (low/med): LOW Date Received: 08/03/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	2.9	B		P
7440-39-3	Barium	47.6	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	71600			P
7440-47-3	Chromium	5.2	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	5.0	U		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	21800			P
7439-96-5	Manganese	46.4			P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	7810			P
7782-49-2	Selenium	2.6	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	74800			P
7440-28-0	Thallium	1.1	B		P
7440-62-2	Vanadium	8.2	B		P
7440-66-6	Zinc	4.2	B		P
	Cyanide				NR

NV
8/
10/11/

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TMA Inc. REPORT Work Order # A3-08-001

eived: 08/01/93 Results by Sample

PLE ID B08Y11 FRACTION 01F TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	9.1	mg/L	0.2
Fluoride	300.0	0.7	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	7.9	pH	0.1
Sulfate	300.0	52	mg/L	5
Elect. Conductivity	9050	477	umho/cm	6

FORM I

NV
SV
10/12/93

TMA Inc. REPORT Work Order # A3-08-001

ceived: 08/01/93 Results by Sample

IPLE ID B08Y11 FRACTION 01N TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	158	mg/L	2

FORM I

NV

TMA Inc. REPORT Work Order # A3-08-001

eived: 08/01/93 Results by Sample

PLE ID B08Y11 FRACTION 01J TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	300	mg/L	5

FORM I

NV
10/12/93

TMA Inc. REPORT Work Order # A3-08-001

ceived: 08/01/93 Results by Sample

MPLE ID B08Y11 FRACTION 01L TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

NV
SC
10/12/93

TMA Inc. REPORT Work Order # A3-08-001

eived: 08/01/93 Results by Sample

PLE ID B08Y11 FRACTION 01M TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

NV
SC
10/12/93

TMA Inc. REPORT Work Order # A3-08-001

:ived: 08/01/93 Results by Sample

'LE ID B08Y81 FRACTION 03F TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	12.8	mg/L	1.0
Fluoride	300.0	0.3	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	7.9	pH	0.1
Sulfate	300.0	59	mg/L	5
Elect. Conductivity	9050	657	umho/cm	6

FORM I

NV
SC
10/17/93

TMA Inc. REPORT Work Order # A3-08-001

:eived: 08/01/93

Results by Sample

(PLE ID B08Y81 FRACTION 03N TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	204	mg/L	2

FORM I

NV
8C
10/12/93

TMA Inc. REPORT Work Order # A3-08-001

eived: 08/01/93 Results by Sample

PLE ID B08Y81 FRACTION 03I TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	431	mg/L	5

FORM I

NV
10/12/93

TMA Inc. REPORT Work Order # A3-08-001

ceived: 08/01/93 Results by Sample

MPLE ID B08Y81 FRACTION 03J TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

NV
SN
10/12/93

TMA Inc. REPORT Work Order # A3-08-001

ceived: 08/01/93 Results by Sample

MPLE ID B08Y81 FRACTION 03L TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

NV

TMA Inc. REPORT Work Order # A3-08-001

ɜived: 08/01/93 Results by Sample

ᵖLE ID B08Y86 FRACTION 05D TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	32.3	mg/L	1.0
Fluoride	300.0	0.5	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	7.7	pH	0.1
Sulfate	300.0	102	mg/L	5
Elect. Conductivity	9050	874	umho/cm	6

FORM I

NV
SW
10/12/93

TMA Inc. REPORT Work Order # A3-08-001

eived: 08/01/93 Results by Sample

PLE ID 808Y86 FRACTION 05E TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	204	mg/L	2

FORM I

NV
KU
10/12/93

TMA Inc. REPORT Work Order # A3-08-001

eived: 08/01/93 Results by Sample

PLE ID B08Y86 FRACTION 05F TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	577	mg/L	5

FORM I

NV
SC
10/12/93

TMA Inc. REPORT Work Order # A3-08-001

ceived: 08/01/93 Results by Sample

MPLE ID B08Y86 FRACTION 05G TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

NV
10/12/93

TMA Inc. REPORT Work Order # A3-08-001

:eived: 08/01/93

Results by Sample

'PLE ID B08Y86 FRACTION 05M TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/28/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

NV
SW
10/12/93

9715506.1689

FORM I
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08Y14

CASE NO.: N3-07-134

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 02-Aug-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	<1	1	02-Aug-93
ORGANIC BROMIDE	<0.01	0.01	05-Aug-93
ORGANIC CHLORIDE	<0.01	0.01	05-Aug-93
ORGANIC IODIDE	<0.01	0.01	05-Aug-93

COMMENTS:

NV
SR
10/12/93

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08Y84

CASE NO.: N3-07-134

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 02-Aug-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	<1	1	02-Aug-93
ORGANIC BROMIDE	<0.01	0.01	05-Aug-93
ORGANIC CHLORIDE	<0.01	0.01	05-Aug-93
ORGANIC IODIDE	<0.01	0.01	05-Aug-93

NV
10/12/93

9713508.1691

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08Y89

CASE NO.: N3-07-134

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 02-Aug-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	2.0	1	02-Aug-93
ORGANIC BROMIDE	<0.01	0.01	05-Aug-93
ORGANIC CHLORIDE	<0.01	0.01	05-Aug-93
ORGANIC IODIDE	<0.01	0.01	05-Aug-93

NV
SC
10/12/93

04

9713508.1692

N307119-06

TMA NORCAL
REPORTING GROUP 7217

DATA SHEET

B08Y11

SDG 7217 | Client Westinghouse Hanford
Contact Dinkar Kharkar | Contract MBH-SVV-069262

Lab sample id N307119-06 | Client sample id B08Y11
Dept sample id 7217-006 | Location/Matrix 100-FR-3 LIQUID
Received 07/30/93 | Collected 07/28/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Gross Alpha	Alpha	4.5	2.1	2	3	R	80A
Gross Beta	Beta	5.7	1.6	2	4	B R	80B
Uranium 233/234		2.1	0.36	0.1	0.2	R	U
Uranium 235	15117-96-1	0.14	0.079	0.1	0.2	J R	U
Uranium 238	7440-61-1	1.9	0.33	0.08	0.2	R	U
Plutonium 238	13981-16-3	-0.019	0.024	0.05	0.05	U R	PU
Plutonium 239/240		0	0.005	0.02	0.05	U R	PU
Americium 241	14596-10-2	0.023	0.026	0.04	0.05	U R	AM
Strontium 90	10098-97-2	0.16	0.19	0.7	2	U R	Y
Technetium 99	14133-76-7	6.6	1.2	2	5	B R	TC
Tritium	10028-17-8	120	130	200	400	U R	H
Carbon 14	14762-75-5	82	25	40	50	R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		200		U R	GAM
Iron 59	14596-12-4	U		20	30	U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		30		U	GAM
Ruthenium 103	13968-53-1	U		10		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		10		U	GAM
Cesium 134	13967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		50		U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-63-3	U		30		U	GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

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RBC QC
10/29/93

9713508.1693

TMA NORCAL
REPORTING GROUP 7217

N307119-06

DATA SHEET, cont

B08Y11

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-06	Client sample id	B08Y11
Dept sample id	7217-006	Location/Matrix	100-FR-3 LIQUID
Received	07/30/93	Collected	07/28/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Thorium 228	14274-82-9	U		20		~~U~~ R	GAM
Thorium 232	7440-29-1	U		60		~~U~~ R	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-06	80A/80	7217-006		0.300 L	08/10/93	08/12/93	DPK
N307119-06	80B/80	7217-006		0.300 L	08/10/93	08/12/93	DPK
N307119-06	U	7217-006		1.00 L	08/26/93	08/30/93	DPK
N307119-06	PU	7217-006		1.00 L	08/18/93	08/23/93	DPK
N307119-06	AM	7217-006		1.00 L	08/21/93	08/25/93	DPK
N307119-06	Y	7217-006		1.00 L	08/24/93	08/27/93	DPK
N307119-06	TC	7217-006		0.200 L	08/26/93	08/27/93	DPK
N307119-06	H	7217-006		0.0100 L	08/16/93	09/14/93	DPK
N307119-06	C	7217-006		0.0300 L	09/11/93	09/15/93	DPK
N307119-06	GAM	7217-006		0.500 L	08/12/93	03/29/96	DPK

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

RBC - QC
10/29/93

9713508.1694

N307119-05

TMA NORCAL
REPORTING GROUP 7217

DATA SHEET

B08Y16

SDG 7217
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N307119-05
Dept sample id 7217-005
Received 07/28/93
Client sample id B08Y16
Location/Matrix 100-FR-3 LIQUID
Collected 07/23/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Gross Alpha	Alpha	-1.3	1.5	2	3	U R	80A
Gross Beta	Beta	55	3.1	2	4	B R	80B
Uranium 233/234		0.32	0.13	0.1	0.2	R	U
Uranium 235	15117-96-1	0.037	0.050	0.09	0.2	U R	U
Uranium 238	7440-61-1	0.47	0.15	0.08	0.2	R	U
Plutonium 238	13981-16-3	-0.006	0.016	0.04	0.05	U R	PU
Plutonium 239/240		0.005	0.010	0.02	0.05	U R	PU
Americium 241	14596-10-2	0.004	0.011	0.02	0.05	U R	AM
Strontium 90	10098-97-2	22	4.0	0.7	2	R	Y
Technetium 99	14133-76-7	26	1.5	2	5	B R	TC
Tritium	10028-17-8	200	140	200	400	J R	H
Carbon 14	14762-75-5	150	23	30	50	R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		300		U R	GAM
Iron 59	14596-12-4	U		40	30	U	GAM
Cobalt 60	10198-40-0	U		20	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		30		U	GAM
Ruthenium 103	13968-53-1	U		20		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		20		U	GAM
Cesium 134	13967-70-9	U		20		U	GAM
Cesium 137	10045-97-3	U		20	20	U	GAM
Cerium 144	14762-78-8	U		70		U	GAM
Europium 152	14683-23-9	U		30	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-63-3	24	24				GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

RBC-QC
10/29/93

9713508.1695

TMA NORCAL
REPORTING GROUP 7217

N307119-05

DATA SHEET, cont

B08Y16

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-05	Client sample id	B08Y16
Dept sample id	7217-005	Location/Matrix	100-FR-3 LIQUID
Received	07/28/93	Collected	07/23/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Thorium 228	14274-82-9	U		30		~~U~~ R	GAM
Thorium 232	7440-29-1	U		70		~~U~~ R	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-05	80A/80	7217-005		0.300 L	08/10/93	08/12/93	DPK
N307119-05	80B/80	7217-005		0.300 L	08/10/93	08/12/93	DPK
N307119-05	U	7217-005		1.00 L	08/26/93	08/30/93	DPK
N307119-05	PU	7217-005		1.00 L	08/18/93	08/23/93	DPK
N307119-05	AM	7217-005		1.00 L	08/17/93	08/20/93	DPK
N307119-05	Y	7217-005		1.00 L	08/24/93	08/31/93	DPK
N307119-05	TC	7217-005		0.200 L	08/30/93	09/02/93	DPK
N307119-05	H	7217-005		0.0100 L	08/16/93	09/14/93	DPK
N307119-05	C	7217-005		0.0300 L	09/10/93	09/15/93	DPK
N307119-05	GAM	7217-005		0.500 L	08/12/93	03/29/96	DPK

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

RBC - QC
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9713508.1696

N307119-09

TMA NORCAL
REPORTING GROUP 7217

DATA SHEET

B08Y21

SDG 7217
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N307119-09
Dept sample id 7217-009
Received 08/03/93
Client sample id B08Y21
Location/Matrix 100-FR-3 LIQUID
Collected 07/30/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Gross Alpha	Alpha	-2.6	1.8	1	3	U R	80A
Gross Beta	Beta	460	8.2	2	4	B R	80B
Uranium 233/234		0.18	0.080	0.09	0.2	J R	U
Uranium 235	15117-96-1	0.008	0.032	0.06	0.2	U R	U
Uranium 238	7440-61-1	0.21	0.080	0.05	0.2	R	U
Plutonium 238	13981-16-3	-0.003	0.026	0.05	0.05	U R	PU
Plutonium 239/240		-0.003	0.011	0.03	0.05	U R	PU
Americium 241	14596-10-2	0.003	0.007	0.009	0.05	U R	AM
Strontium 90	10098-97-2	190	4.4	0.8	2	R	Y
Technetium 99	14133-76-7	5.8	0.80	1	5	B R	TC
Tritium	10028-17-8	760	170	200	400	R	H
Carbon 14	14762-75-5	-42	17	30	50	U R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		100		U R	GAM
Iron 59	14596-12-4	U		20	30	U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		20		U	GAM
Ruthenium 103	13968-53-1	U		10		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		10		U	GAM
Cesium 134	13967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		50		U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		10	40	U	GAM
Radium 226	13982-63-3	U		20		U	GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

RBC-QC
10/29/93

9713508.1697

TMA NORCAL
REPORTING GROUP 7217

N307119-09

DATA SHEET, cont

B08Y21

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-09	Client sample id	B08Y21
Dept sample id	7217-009	Location/Matrix	100-FR-3 LIQUID
Received	08/03/93	Collected	07/30/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Thorium 228	14274-82-9	U		20		~~U~~ R	GAM
Thorium 232	7440-29-1	U		50		~~U~~ R	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-09	80A/80	7217-009		0.300 L	08/11/93	08/13/93	DPK
N307119-09	80B/80	7217-009		0.300 L	08/11/93	08/12/93	DPK
N307119-09	U	7217-009		1.00 L	08/27/93	08/31/93	DPK
N307119-09	PU	7217-009		1.00 L	08/18/93	08/23/93	DPK
N307119-09	AM	7217-009		1.00 L	08/23/93	08/27/93	DPK
N307119-09	Y	7217-009		1.00 L	08/24/93	08/31/93	DPK
N307119-09	TC	7217-009		0.200 L	08/30/93	09/02/93	DPK
N307119-09	H	7217-009		0.0100 L	08/16/93	09/14/93	DPK
N307119-09	C	7217-009		0.0300 L	09/11/93	09/15/93	DPK
N307119-09	GAM	7217-009		0.500 L	08/13/93	03/29/96	DPK

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

RBC-QC
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9713508.1698

N307119-07

TMA NORCAL
REPORTING GROUP 7217

DATA SHEET

B08Y81

SDG 7217 Client Westinghouse Hanford
Contact Dinkar Kharkar Contract MBH-SVV-069262

Lab sample id N307119-07 Client sample id B08Y81
Dept sample id 7217-007 Location/Matrix 100-FR-3 LIQUID
Received 07/30/93 Collected 07/28/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Gross Alpha	Alpha	3.2	2.0	2	3	R	80A
Gross Beta	Beta	6.1	1.5	2	4	B R	80B
Uranium 233/234		3.6	0.54	0.1	0.2	R	U
Uranium 235	15117-96-1	0.13	0.087	0.1	0.2	U R	U
Uranium 238	7440-61-1	2.8	0.48	0.1	0.2	R	U
Plutonium 238	13981-16-3	0.006	0.020	0.04	0.05	U R	PU
Plutonium 239/240		0.006	0.008	0.02	0.05	U R	PU
Americium 241	14596-10-2	0.033	0.022	0.03	0.05	U R	AM
Strontium 90	10098-97-2	0.082	0.19	0.8	2	U R	Y
Technetium 99	14133-76-7	6.4	1.8	4	5	B R	TC
Tritium	10028-17-8	580	160	200	400	R	H
Carbon 14	14762-75-5	-22	17	30	50	U R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		100		U R	GAM
Iron 59	14596-12-4	U		30	30	U	GAM
Cobalt 60	10198-40-0	U		20	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		20		U	GAM
Ruthenium 103	13968-53-1	U		10		U	GAM
Ruthenium 106	13967-48-1	U		90		U	GAM
Tin 113	13966-06-8	U		10		U	GAM
Cesium 134	13967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		50		U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-63-3	U		30		U	GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

RBC-10/29/9
QC

9713508.1699

TMA NORCAL
REPORTING GROUP 7217

N307119-07

DATA SHEET, cont

B08Y81

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-07	Client sample id	B08Y81
Dept sample id	7217-007	Location/Matrix	100-FR-3 LIQUID
Received	07/30/93	Collected	07/28/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Thorium 228	14274-82-9	U		20		~~U~~ R	GAM
Thorium 232	7440-29-1	U		50		~~U~~ R	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-07	80A/80	7217-007		0.300 L	08/10/93	08/12/93	DPK
N307119-07	80B/80	7217-007		0.300 L	08/10/93	08/12/93	DPK
N307119-07	U	7217-007		1.00 L	08/26/93	08/30/93	DPK
N307119-07	PU	7217-007		1.00 L	08/18/93	08/23/93	DPK
N307119-07	AM	7217-007		1.00 L	08/23/93	08/25/93	DPK
N307119-07	Y	7217-007		1.00 L	08/24/93	08/27/93	DPK
N307119-07	TC	7217-007		0.200 L	08/26/93	08/30/93	DPK
N307119-07	H	7217-007		0.0100 L	08/16/93	09/14/93	DPK
N307119-07	C	7217-007		0.0300 L	09/11/93	09/15/93	DPK
N307119-07	GAM	7217-007		0.500 L	08/13/93	03/29/96	DPK

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

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10/29/93

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TMA NORCAL
REPORTING GROUP 7217

N307119-08

B08Y86

DATA SHEET

SDG 7217 — Client Westinghouse Hanford
Contact Dinkar Kharkar — Contract MBH-SVV-069262

Lab sample id N307119-08 — Client sample id B08Y86
Dept sample id 7217-008 — Location/Matrix 100-FR-3 LIQUID
Received 07/30/93 — Collected 07/28/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Gross Alpha	Alpha	1.1	1.6	2	3	U R	80A
Gross Beta	Beta	6.4	1.5	2	4	B R	80B
Uranium 233/234		1.9	0.28	0.08	0.2	R	U
Uranium 235	15117-96-1	0.10	0.068	0.06	0.2	J R	U
Uranium 238	7440-61-1	1.5	0.24	0.05	0.2	R	U
Plutonium 238	13981-16-3	-0.002	0.026	0.05	0.05	U R	PU
Plutonium 239/240		-0.004	0.009	0.03	0.05	U R	PU
Americium 241	14596-10-2	0.002	0.015	0.03	0.05	U R	AM
Strontium 90	10098-97-2	0	1.6	0.9	2	U R	Y
Technetium 99	14133-76-7	4.5	1.0	2	5	B R	TC
Tritium	10028-17-8	1300	190	200	400	R	H
Carbon 14	14762-75-5	-57	20	40	50	U R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		200		U R	GAM
Iron 59	14596-12-4	U		30	30	U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		30		U	GAM
Ruthenium 103	13968-53-1	U		20		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		20		U	GAM
Cesium 134	13967-70-9	U		20		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		70		U	GAM
Europium 152	14683-23-9	U		30	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-63-3	U		20		U	GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

RBC-QC
10/29/93

9713508.1701

TMA NORCAL
REPORTING GROUP 7217

N307119-08

DATA SHEET, cont

B08Y86

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-08	Client sample id	B08Y86
Dept sample id	7217-008	Location/Matrix	100-FR-3 LIQUID
Received	07/30/93	Collected	07/28/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Thorium 228	14274-82-9	U		20		~~U~~ R	GAM
Thorium 232	7440-29-1	U		60		~~U~~ R	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-08	80A/80	7217-008		0.300 L	08/10/93	08/12/93	DPK
N307119-08	80B/80	7217-008		0.300 L	08/10/93	08/12/93	DPK
N307119-08	U	7217-008		1.00 L	08/27/93	08/31/93	DPK
N307119-08	PU	7217-008		1.00 L	08/18/93	08/23/93	DPK
N307119-08	AM	7217-008		1.00 L	08/18/93	08/23/93	DPK
N307119-08	Y	7217-008		1.00 L	08/24/93	08/26/93	DPK
N307119-08	TC	7217-008		0.200 L	08/27/93	08/31/93	DPK
N307119-08	H	7217-008		0.0100 L	08/16/93	09/14/93	DPK
N307119-08	C	7217-008		0.0300 L	09/11/93	09/15/93	DPK
N307119-08	GAM	7217-008		0.500 L	08/13/93	03/29/96	DPK

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

RBC-QC
10/29/93

9713508.1702

TMA NORCAL
REPORTING GROUP 7217

N307119-01

B08Y91

DATA SHEET

SDG 7217 — Client Westinghouse Hanford
Contact Dinkar Kharkar — Contract MBH-SVV-069262

Lab sample id N307119-01 — Client sample id B08Y91
Dept sample id 7217-001 — Location/Matrix 10-FR-3 LIQUID
Received 07/27/93 — Collected 07/24/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS		TEST
Gross Alpha	Alpha	5.5	2.5	2	3		R	80A
Gross Beta	Beta	8.3	1.9	3	4	B	R	80B
Uranium 233/234		9.3	0.89	0.1	0.2		R	U
Uranium 235	15117-96-1	0.46	0.12	0.07	0.2		R	U
Uranium 238	7440-61-1	8.6	0.83	0.09	0.2		R	U
Plutonium 238	13981-16-3	-0.002	0.007	0.02	0.05	U	R	PU
Plutonium 239/240		0.002	0.004	0.01	0.05	U	R	PU
Americium 241	14596-10-2	-0.011	0.011	0.03	0.05	U	R	AM
Strontium 90	10098-97-2	41	1.6	0.9	2		R	Y
Technetium 99	14133-76-7	6.6	1.1	2	5	B	R	TC
Tritium	10028-17-8	1900	210	200	400		R	H
Carbon 14	14762-75-5	-30	19	30	50	U	R	C
GAMMA SCAN ANALYTES								
Potassium 40	13966-00-2	U		100		U	R	GAM
Iron 59	14596-12-4	U		30	30	U		GAM
Cobalt 60	10198-40-0	U		10	30	U		GAM
Chromium 51	14392-02-0	U		100		U		GAM
Zinc 65	13982-39-3	U		30		U		GAM
Ruthenium 103	13968-53-1	U		20		U		GAM
Ruthenium 106	13967-48-1	U		100		U		GAM
Tin 113	13966-06-8	U		10		U		GAM
Cesium 134	13967-70-9	U		10		U		GAM
Cesium 137	10045-97-3	U		10	20	U		GAM
Cerium 144	14762-78-8	U		50		U		GAM
Europium 152	14683-23-9	U		20	40	U		GAM
Europium 154	15585-10-1	U		20	40	U		GAM
Radium 226	13982-63-3	U		20		U		GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

RBC-QC
10/29/93

9713508.1703

TMA NORCAL
REPORTING GROUP 7217

N307119-01

DATA SHEET, cont

B08Y91

SDG 7217 Client Westinghouse Hanford
Contact Dinkar Kharkar Contract MBH-SVV-069262

Lab sample id N307119-01 Client sample id B08Y91
Dept sample id 7217-001 Location/Matrix 10-FR-3 LIQUID
Received 07/27/93 Collected 07/24/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Thorium 228	14274-82-9	U		20		~~U~~ R	GAM
Thorium 232	7440-29-1	U		50		~~U~~ R	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-01	80A/80	7217-001		0.300 L	08/11/93	08/13/93	DPK
N307119-01	80B/80	7217-001		0.300 L	08/11/93	08/13/93	DPK
N307119-01	U	7217-001		1.00 L	08/20/93	08/25/93	DPK
N307119-01	PU	7217-001		1.00 L	08/16/93	08/18/93	DPK
N307119-01	AM	7217-001		1.00 L	08/17/93	08/23/93	DPK
N307119-01	Y	7217-001		1.00 L	08/24/93	08/31/93	DPK
N307119-01	TC	7217-001		0.200 L	08/26/93	08/27/93	DPK
N307119-01	H	7217-001		0.0100 L	08/16/93	09/14/93	DPK
N307119-01	C	7217-001		0.0300 L	09/10/93	09/15/93	DPK
N307119-01	GAM	7217-001		0.500 L	08/11/93	03/29/96	DPK

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

RBC/QC
10/29/93

9713508.1704

N307119-02

TMA NORCAL
REPORTING GROUP 7217

DATA SHEET

B08YC5

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-02	Client sample id	B08YC5
Dept sample id	7217-002	Location/Matrix	100-FR-3 LIQUID
Received	07/27/93	Collected	07/24/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS		TEST
Gross Alpha	Alpha	1.2	1.8	2	3	U	R	80A
Gross Beta	Beta	1.2	1.7	3	4	U	R	80B
Uranium 233/234		10	1.0	0.1	0.2		R	U
Uranium 235	15117-96-1	0.53	0.14	0.08	0.2		R	U
Uranium 238	7440-61-1	10	1.0	0.1	0.2		R	U
Plutonium 238	13981-16-3	0.002	0.004	0.01	0.05	U	R	PU
Plutonium 239/240		0.004	0.004	0.01	0.05	U	R	PU
Americium 241	14596-10-2	0.017	0.034	0.06	0.05	U	R	AM
Strontium 90	10098-97-2	-0.002	1.6	0.7	2	U	R	Y
Technetium 99	14133-76-7	14	1.4	2	5	B	R	TC
Tritium	10028-17-8	1900	210	200	400		R	H
Carbon 14	14762-75-5	-49	21	40	50	U	R	C
GAMMA SCAN ANALYTES								
Potassium 40	13966-00-2	U		300		U	R	GAM
Iron 59	14596-12-4	U		40	30	U		GAM
Cobalt 60	10198-40-0	U		20	30	U		GAM
Chromium 51	14392-02-0	U		100		U		GAM
Zinc 65	13982-39-3	U		40		U		GAM
Ruthenium 103	13968-53-1	U		20		U		GAM
Ruthenium 106	13967-48-1	U		100		U		GAM
Tin 113	13966-06-8	U		20		U		GAM
Cesium 134	13967-70-9	U		20		U		GAM
Cesium 137	10045-97-3	U		10	20	U		GAM
Cerium 144	14762-78-8	U		70		U		GAM
Europium 152	14683-23-9	U		30	40	U		GAM
Europium 154	15585-10-1	U		20	40	U		GAM
Radium 226	13982-63-3	U		30		U		GAM

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

RBC-QC
10/29/93

9713508.1705

TMA NORCAL
REPORTING GROUP 7217

N307119-02

DATA SHEET, cont

B08YC5

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-02	Client sample id	B08YC5
Dept sample id	7217-002	Location/Matrix	100-FR-3 LIQUID
Received	07/27/93	Collected	07/24/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Thorium 228	14274-82-9	23	21			R	GAM
Thorium 232	7440-29-1	81	59			R	GAM
Gamma RA228		81	59				GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-02	80A/80	7217-002		0.300 L	08/10/93	08/12/93	DPK
N307119-02	80B/80	7217-002		0.300 L	08/10/93	08/12/93	DPK
N307119-02	U	7217-002		1.00 L	08/20/93	08/25/93	DPK
N307119-02	PU	7217-002		1.00 L	08/16/93	08/18/93	DPK
N307119-02	AM	7217-002		1.00 L	08/17/93	08/20/93	DPK
N307119-02	Y	7217-002		1.00 L	08/24/93	08/26/93	DPK
N307119-02	TC	7217-002		0.200 L	08/26/93	08/27/93	DPK
N307119-02	H	7217-002		0.0100 L	08/16/93	09/14/93	DPK
N307119-02	C	7217-002		0.0300 L	09/10/93	09/15/93	DPK
N307119-02	GAM	7217-002		0.500 L	08/11/93	03/29/96	DPK

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

RBC-QC
10/29/93

9713508.1706

N307119-03

TMA NORCAL
REPORTING GROUP 7217

DATA SHEET

B08YD0

SDG 7217 Client Westinghouse Hanford
Contact Dinkar Kharkar Contract MBH-SVV-069262

Lab sample id N307119-03 Client sample id B08YD0
Dept sample id 7217-003 Location/Matrix 100-FR-3 LIQUID
Received 07/27/93 Collected 07/23/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Gross Alpha	Alpha	0.53	0.97	1	3	U R	80A
Gross Beta	Beta	0.53	1.2	2	4	U R	80B
Uranium 233/234		0	0.059	0.1	0.2	U R	U
Uranium 235	15117-96-1	0.018	0.036	0.1	0.2	U R	U
Uranium 238	7440-61-1	0.015	0.030	0.1	0.2	U R	U
Plutonium 238	13981-16-3	0.002	0.003	0.01	0.05	U R	PU
Plutonium 239/240		0.002	0.007	0.01	0.05	U R	PU
Americium 241	14596-10-2	0.011	0.015	0.02	0.05	U R	AM
Strontium 90	10098-97-2	0.084	0.20	0.8	2	U R	Y
Technetium 99	14133-76-7	10	1.3	2	5	B R	TC
Tritium	10028-17-8	110	140	200	400	U R	H
Carbon 14	14762-75-5	-53	20	30	50	U R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		100		U R	GAM
Iron 59	14596-12-4	U		30	30	U	GAM
Cobalt 60	10198-40-0	U		10	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		30		U	GAM
Ruthenium 103	13968-53-1	U		10		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		20		U	GAM
Cesium 134	13967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		60		U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		10	40	U	GAM
Radium 226	13982-63-3	U		30		U	GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

RBC-QC
10/29/93

9713508.1707

TMA NORCAL
REPORTING GROUP 7217

N307119-03

DATA SHEET, cont

B08YD0

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-03	Client sample id	B08YD0
Dept sample id	7217-003	Location/Matrix	100-FR-3 LIQUID
Received	07/27/93	Collected	07/23/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Thorium 228	14274-82-9	U		20		~~U~~ R	GAM
Thorium 232	7440-29-1	U		50		~~U~~ R	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-03	80A/80	7217-003		0.300 L	08/10/93	08/12/93	DPK
N307119-03	80B/80	7217-003		0.300 L	08/10/93	08/12/93	DPK
N307119-03	U	7217-003		1.00 L	08/26/93	08/30/93	DPK
N307119-03	PU	7217-003		1.00 L	08/16/93	08/18/93	DPK
N307119-03	AM	7217-003		1.00 L	08/17/93	08/23/93	DPK
N307119-03	Y	7217-003		1.00 L	08/24/93	08/26/93	DPK
N307119-03	TC	7217-003		0.200 L	08/26/93	08/27/93	DPK
N307119-03	H	7217-003		0.0100 L	08/16/93	09/14/93	DPK
N307119-03	C	7217-003		0.0300 L	09/10/93	09/15/93	DPK
N307119-03	GAM	7217-003		0.500 L	08/11/93	03/29/96	DPK

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

RBC-QC
10/29/93

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N307119-04

TMA NORCAL
REPORTING GROUP 7217

DATA SHEET

B08YD5

SDG 7217 Client Westinghouse Hanford
Contact Dinkar Kharkar Contract MBH-SVV-069262

Lab sample id N307119-04 Client sample id B08YD5
Dept sample id 7217-004 Location/Matrix 100-FR-3 LIQUID
Received 07/27/93 Collected 07/23/93
Chain of custody id

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Gross Alpha	Alpha	-0.26	1.4	2	3	U R	80A
Gross Beta	Beta	-0.19	1.1	2	4	U R	80B
Uranium 233/234		0.011	0.044	0.08	0.2	U R	U
Uranium 235	15117-96-1	0.027	0.027	0.1	0.2	U R	U
Uranium 238	7440-61-1	0.022	0.022	0.08	0.2	U R	U
Plutonium 238	13981-16-3	0	0.003	0.01	0.05	U R	PU
Plutonium 239/240		0	0.003	0.01	0.05	U R	PU
Americium 241	14596-10-2	-0.002	0.014	0.03	0.05	U R	AM
Strontium 90	10098-97-2	0.097	0.21	0.8	2	U R	Y
Technetium 99	14133-76-7	5.8	1.0	2	5	U R	TC
Tritium	10028-17-8	78	130	200	400	U R	H
Carbon 14	14762-75-5	-40	19	30	50	U R	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		100		U R	GAM
Iron 59	14596-12-4	U		40	30	U	GAM
Cobalt 60	10198-40-0	U		20	30	U	GAM
Chromium 51	14392-02-0	U		100		U	GAM
Zinc 65	13982-39-3	U		30		U	GAM
Ruthenium 103	13968-53-1	U		10		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		10		U	GAM
Cesium 134	13967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		60		U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM
Radium 226	13982-63-3	U		20		U	GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.27
Report date 09/20/93

RBC-QC
10/29/93

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TMA NORCAL
REPORTING GROUP 7217

N307119-04

DATA SHEET, cont

B08YD5

SDG	7217	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N307119-04	Client sample id	B08YD5
Dept sample id	7217-004	Location/Matrix	100-FR-3 LIQUID
Received	07/27/93	Collected	07/23/93
		Chain of custody id	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Thorium 228	14274-82-9	U		20		~~U~~ R	GAM
Thorium 232	7440-29-1	U		50		~~U~~ R	GAM

LAB SAMPLE	TEST	PLANCHET	SUFFIX	ALIQUOT	ANALYZED	REVIEWED	BY
N307119-04	80A/80	7217-004		0.300 L	08/10/93	08/12/93	DPK
N307119-04	80B/80	7217-004		0.300 L	08/10/93	08/12/93	DPK
N307119-04	U	7217-004		1.00 L	08/26/93	08/30/93	DPK
N307119-04	PU	7217-004		1.00 L	08/16/93	08/18/93	DPK
N307119-04	AM	7217-004		1.00 L	08/17/93	08/20/93	DPK
N307119-04	Y	7217-004		1.00 L	08/24/93	08/26/93	DPK
N307119-04	TC	7217-004		0.200 L	08/26/93	08/27/93	DPK
N307119-04	H	7217-004		0.0100 L	08/16/93	09/14/93	DPK
N307119-04	C	7217-004		0.0300 L	09/10/93	09/15/93	DPK
N307119-04	GAM	7217-004		0.500 L	08/12/93	03/29/96	DPK

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.27
Report date	09/20/93

RBC-QC
10/29/93

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1A

000141

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

B08Y91

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M13

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	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	4	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

PS 10/13/93

9713508.1711
1E

000142
EPA SAMPLE NO.

B08Y91

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M13

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

PS 10/13/93

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1A

EPA SAMPLE NO.

B08Y93

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-04A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M14

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	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

PS 10/13/13

9713508.1713

1E

000144

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B08Y93

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-04A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M14

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YC5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M09

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	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

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EPA SAMPLE NO.

B08YC5

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M09

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

PS 10/13/93

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VOLATILE ORGANICS ANALYSIS DATA SHEET

000147
EPA SAMPLE NO.

B08YC7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M10

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	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	4	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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000148
EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B08YC7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M10

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

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000149

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M15

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	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

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EPA SAMPLE NO.

B08YD0

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M15

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-06A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M16

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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000152

EPA SAMPLE NO.

B08YD2

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-06A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M16

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

PS 10/13/93

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000153

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-07A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M17

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	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

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EPA SAMPLE NO.

B08YD5

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-07A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M17

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

PS 10/13/93

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000155

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-08A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M18

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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	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

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000156

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08YD7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-08A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 30729M18

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: not dec. ____ Date Analyzed: 07/29/93

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

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y91

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-03B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I06

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

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1C

000158

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y91

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-03B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I06

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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	
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

PS 10/13/93

9713508.1728 000159

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B08Y91

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-03B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I06

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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 HYDROCARBON	20.82	62	J

PS 10/13/93

9713508.1729 000160

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YC5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I03

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

PS 10/13/93

9713508.1730 000161

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YC5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I03

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

PS 10/13/93

9713508.1731

1F

000162

EPA SAMPLE NO.

B08YC5

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-01B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I03

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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 HYDROCARBON	20.80	75	J

PS 10/13/93

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-05B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I07

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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	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

PS 10/13/93

9713508.1735

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000164
EPA SAMPLE NO.

B08YD0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-05B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I07

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

PS 10/13/93

9713508.1734

1F

000165

EPA SAMPLE NO.

B08YD0

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-05B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I07

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

PS 10/13/93

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-07B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I08

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

PS 10/13/93

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-07B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I08

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

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

PS 10/13/93

9713508.1737

1F

000168

EPA SAMPLE NO.

B08YD5

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-07B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 30804I08

Level: (low/med) LOW Date Received: 07/27/93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 07/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/04/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

PS 10/13/93

9713508.1738

000169

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08Y91

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A307074-03C

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

Moisture: _____ decanted: (Y/N) ___ Date Received: 07/27/93

xtraction: (SepF/Cont/Sonc) CONT Date Extracted: 07/28/93

oncentrated Extract Volume: 10000 (uL) Date Analyzed: 08/11/93

njection Volume: 1.00 (uL) Dilution Factor: 1.00

PC 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

DGL 10/27/93

9713508.1739

000170

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YC5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-01E

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

Moisture: _____ decanted: (Y/N) ___ Date Received: 07/27/93

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 07/28/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/11/93

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

10/29/93

9713508.1740

1D 000171

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A307074-05C

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 07/27/93

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 07/28/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/11/93

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

DL 10/25/93

9713508.1741

000172

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08YD5

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 07074 SAS No.: NA SDG No.: NA

atrix: (soil/water) WATER Lab Sample ID: A307074-07C

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

Moisture: _____ decanted: (Y/N) ___ Date Received: 07/27/93

xtraction: (SepF/Cont/Sonc) CONT Date Extracted: 07/28/93

oncentrated Extract Volume: 10000 (uL) Date Analyzed: 08/11/93

njection Volume: 1.00 (uL) Dilution Factor: 1.00

PC 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

DGR 10/25/93

9713508.1742

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y91

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y91

Matrix (soil/water): WATER Lab Sample ID: 07273-01S

Level (low/med): LOW Date Received: 07/28/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	4.8	B		P
7440-39-3	Barium	48.0	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	100000			P
7440-47-3	Chromium	9.0	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	3.2	~~B~~	U	P
7439-89-6	Iron	38.0	~~B~~	U	P
7439-92-1	Lead	2.8	B	R	P
7439-95-4	Magnesium	26000			P
7439-96-5	Manganese	1.6	~~B~~	U	P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	8230			P
7782-49-2	Selenium	5.0	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	33300			P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	5.8	B		P
7440-66-6	Zinc	4.2	~~B~~	U	P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

10/21/93

Comments:

9713508.1743

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08YC5

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y91

Matrix (soil/water): WATER Lab Sample ID: 07273-02S

Level (low/med): LOW Date Received: 07/28/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	3.4	B		P
7440-39-3	Barium	44.8	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	99500			P
7440-47-3	Chromium	8.7	B		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	49.2	B		P
7439-92-1	Lead	2.6	B	R	P
7439-95-4	Magnesium	25800			P
7439-96-5	Manganese	1.3	~~B~~	U	P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	8130			P
7782-49-2	Selenium	4.0	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	32900			P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	5.5	B		P
7440-66-6	Zinc	4.1	U		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

KEH 10/21/93

Comments:

003

9713508.1744

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08YD0

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y91

Matrix (soil/water): WATER Lab Sample ID: 07273-03S

Level (low/med): LOW Date Received: 07/28/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	1.7	U		P
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	43.2	B	J	P
7440-47-3	Chromium	1.8	U		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	11.4	~~B~~	U	P
7439-92-1	Lead	3.5		R	P
7439-95-4	Magnesium	34.9	B		P
7439-96-5	Manganese	0.60	U		P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	85.5	U		P
7782-49-2	Selenium	2.9	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	143	~~B~~	U	P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	2.3	U		P
7440-66-6	Zinc	4.1	U		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

RGH 10/21/93

Comments:

9713508.1745

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08YD5

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y91

Matrix (soil/water): WATER Lab Sample ID: 07273-04S

Level (low/med): LOW Date Received: 07/28/93

% 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	26.1	~~B~~	U	P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	1.7	U		P
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	35.7	U	J	P
7440-47-3	Chromium	1.8	U		P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	30.3	~~B~~	U	P
7439-92-1	Lead	2.1	B	R	P
7439-95-4	Magnesium	91.8	B		P
7439-96-5	Manganese	0.73	~~B~~	U	P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	85.5	U		P
7782-49-2	Selenium	2.5	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	85.5	~~B~~	U	P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	2.3	U		P
7440-66-6	Zinc	4.1	U		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

KEW 10/21/93

Comments:

9713508.1746

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08Y92

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y92

Matrix (soil/water): WATER Lab Sample ID: 07275-01S

Level (low/med): LOW Date Received: 07/28/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	4.3	B		P
7440-39-3	Barium	47.2	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	97700			P
7440-47-3	Chromium	5.8	B	J	P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.5	B	U	P
7439-89-6	Iron	5.0	U	J	P
7439-92-1	Lead	1.5	B	R	P
7439-95-4	Magnesium	25200			P
7439-96-5	Manganese	1.0	B	U	P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	7920			P
7782-49-2	Selenium	4.3	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	31700			P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	7.6	B		P
7440-66-6	Zinc	4.1	U		P
	Cyanide				NR

REM 10/21/93

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

002

9713508.1747

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08YC6

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y92

Matrix (soil/water): WATER Lab Sample ID: 07275-02S

Level (low/med): LOW Date Received: 07/28/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	1.7	U		P
7440-39-3	Barium	46.6	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	97600			P
7440-47-3	Chromium	4.4	B	J	P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	5.0	U	J	P
7439-92-1	Lead	1.2	B	R	P
7439-95-4	Magnesium	25200			P
7439-96-5	Manganese	1.2	B	U	P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	7890			P
7782-49-2	Selenium	3.3	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	31600			P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	5.0	B		P
7440-66-6	Zinc	5.0	B	U	P
	Cyanide				NR

KEB 10/21/93

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

003

9713508.1748

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08YD1

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y92

Matrix (soil/water): WATER Lab Sample ID: 07275-03S

Level (low/med): LOW Date Received: 07/28/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	1.7	U		P
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	83.4	~~B~~	U	P
7440-47-3	Chromium	1.8	U	J	P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	5.0	U	J	P
7439-92-1	Lead	1.4	B	R	P
7439-95-4	Magnesium	26.6	U		P
7439-96-5	Manganese	1.2	~~B~~	U	P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	85.5	U		P
7782-49-2	Selenium	2.5	B		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	134	~~B~~	U	P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	2.3	U		P
7440-66-6	Zinc	4.1	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

RLB 10/21/93

Comments:

004

9713508.1749

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B08YD6

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

Lab Code: SKINER Case No.: N3-07-117SAS No.: SDG No.: B08Y92

Matrix (soil/water): WATER Lab Sample ID: 07275-04S

Level (low/med): LOW Date Received: 07/28/93

% 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	22.8	U		P
7440-36-0	Antimony	17.9	U		P
7440-38-2	Arsenic	1.7	U		P
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	49.4	~~B~~	U	P
7440-47-3	Chromium	1.8	U	J	P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	2.2	U		P
7439-89-6	Iron	5.0	U	J	P
7439-92-1	Lead	1.5	B	R	P
7439-95-4	Magnesium	26.6	U		P
7439-96-5	Manganese	1.4	~~B~~	U	P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	85.5	U		P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	135	~~B~~	U	P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	2.3	U		P
7440-66-6	Zinc	4.1	U		P
	Cyanide				NR

KEY 10/21/93

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9713508.1750

000016

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08Y91 FRACTION 03F TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Chloride	300.0	14.6	mg/L	2.0	
Fluoride	300.0	0.2	mg/L	0.1	
Phosphate	300.0	<0.4	mg/L	0.4	R
pH	9040	7.7	pH	0.1	J
Sulfate	300.0	82	mg/L	10	
Elect. Conductivity	120.1	830	umho/cm	6	R

FORM I

DKW
10/25/93

9713508.1751

000017

TMA Inc. REPORT

Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08Y91 FRACTION 03H TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Alkalinity	310.1	262	mg/L	2	R

FORM I

DKW
10/25/93

9713508.1752

000018

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08Y91 FRACTION 03J TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	609	mg/L	5

FORM I

DKW
10/25/93

9713508.1755

000019

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08Y91 FRACTION 03L TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Sulfide	9030	<1	mg/L	1	R

FORM I

DKW
10/25/93

9713508.1754

000020

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08Y91 FRACTION 03M TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05	R
COD	410.1	<30	mg/L	30	R

FORM I

DKW
10/25/93

9713508.1755

000011

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YC5 FRACTION 01F TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Chloride	300.0	13.5	mg/L	2.0	
Fluoride	300.0	0.2	mg/L	0.1	
Phosphate	300.0	<0.4	mg/L	0.4	R
pH	9040	7.8	pH	0.1	J
Sulfate	300.0	85	mg/L	10	
Elect. Conductivity	120.1	835	umho/cm	6	R

FORM I

DKW
10/25/93

9713508.1756

000012

TMA Inc. REPORT

Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YC5 FRACTION 01G TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Alkalinity	310.1	262	mg/L	2	R

FORM I

DKW
10/25/93

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YC5 FRACTION 01N TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	574	mg/L	5

FORM I

DKW
10/25/93

9713508.1758

000014

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YC5 FRACTION 01I TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Sulfide	9030	<1	mg/L	1	R

FORM I

DKW
10/25/93

9713508.1759

000015

TMA Inc. REPORT

Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YC5 FRACTION 01J TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/24/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05	R
COD	410.1	<30	mg/L	30	R

FORM I

DRW
10/25/93

9713508.1760

000021

TMA Inc. REPORT

Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD0 FRACTION 05D TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Chloride	300.0	<0.2	mg/L	0.2	
Fluoride	300.0	<0.1	mg/L	0.1	
Phosphate	300.0	<0.4	mg/L	0.4	B
pH	9040	5.9	pH	0.1	J
Sulfate	300.0	<1	mg/L	1	
Elect. Conductivity	120.1	<6	umho/cm	6	R

FORM I

DRW
10/25/93

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD0 FRACTION 05F TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Alkalinity	310.1	<2	mg/L	2	R

FORM I

DKW
10/25/93

9713508.1762

000023

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD0 FRACTION 05G TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	38	mg/L	5

FORM I

DKW
10/25/93

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD0 FRACTION 05N TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Sulfide	9030	<1	mg/L	1	R

FORM I

DKW
10/25/93

9713508.1764

000025

TMA Inc. REPORT

Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD0 FRACTION 05J TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05	R
COD	410.1	<30	mg/L	30	R

FORM I

DKW
10/25/93

9713508.1765

000026

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD5 FRACTION 07D TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Chloride	300.0	<0.2	mg/L	0.2	
Fluoride	300.0	<0.1	mg/L	0.1	
Phosphate	300.0	<0.4	mg/L	0.4	R
pH	9040	5.9	pH	0.1	J
Sulfate	300.0	<1	mg/L	1	
Elect. Conductivity	120.1	<6	umho/cm	6	R

FORM I

DKW
10/25/93

9713508.1766

000027

TMA Inc. REPORT

Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD5 FRACTION 07E TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Alkalinity	310.1	<2	mg/L	2	R

FORM I

DKW
10/05/93

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD5 FRACTION 07F TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	9	mg/L	5

FORM I

DEW
10/25/93

9713508.1768

000029

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD5 FRACTION 07G TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Sulfide	9030	<1	mg/L	1	R

FORM I

DKW 10/05/93

9713508.1769

000030

TMA Inc. REPORT Work Order # A3-07-074

Received: 07/27/93

Results by Sample

SAMPLE ID B08YD5 FRACTION 07I TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 07/23/93 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT	
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05	R
COD	410.1	<30	mg/L	30	R

FORM I

DEW
10/25/93

9713508.1770

 Skinner&Sherman REPORT Work Order # S3-07-274

Received: 07/28/93 Results by Sample

SAMPLE ID B08Y91 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 07/23/93 Category WATER

NO3NO2 22.8
mg N/L

SAMPLE ID B08YC5 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 07/23/93 Category WATER

NO3NO2 23.8
mg N/L

SAMPLE ID B08YD0 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 07/23/93 Category WATER

NO3NO2 <0.25
mg N/L

SAMPLE ID B08YD5 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 07/23/93 Category WATER

NO3NO2 <0.25
mg N/L

SAMPLE ID B08YD5 DUPL SAMPLE # 04 FRACTIONS: B
Date & Time Collected 07/23/93 Category WATER

NO3NO2 <0.25
mg N/L

SAMPLE ID B08YD5 SPIKE SAMPLE # 04 FRACTIONS: C
Date & Time Collected 07/23/93 Category WATER

NO3NO2 1.90
mg N/L

SAMPLE ID LCSW SAMPLE # 05 FRACTIONS: A
Date & Time Collected not specified Category WATER

NO3NO2 1.98
mg N/L

DKW 10/25/93

9713508.1771

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08Y94

CASE NO.: N3-07-117

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 28-Jul-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	1.7 J	1	02-Aug-93
ORGANIC BROMIDE	0.03 R	0.01	30-Jul-93
ORGANIC CHLORIDE	<0.01 R	0.01	30-Jul-93
ORGANIC IODIDE	<0.01 R	0.01	30-Jul-93

COMMENTS:

DKW 10/25/93

02

9713508.1772

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08YC8

CASE NO.: N3-07-117

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 28-Jul-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	1.7 J	1	02-Aug-93
ORGANIC BROMIDE	0.05 R	0.01	30-Jul-93
ORGANIC CHLORIDE	<0.01 R	0.01	30-Jul-93
ORGANIC IODIDE	<0.01 R	0.01	30-Jul-93

DKW
10/25/93

03

9713508.1773

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08YD3

CASE NO.: N3-07-117

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 28-Jul-93

% Solids: NA

Units: MG/L

Analyte	Concentration		Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	<1	J	1	02-Aug-93
ORGANIC BROMIDE	<0.01	R	0.01	30-Jul-93
ORGANIC CHLORIDE	<0.01	R	0.01	30-Jul-93
ORGANIC IODIDE	<0.01	R	0.01	30-Jul-93

DRW
10/25/93

04

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME: Thermo Analytical ERG Inc.

LAB SAMPLE ID: B08YD8

CASE NO.: N3-07-117

Work ID: 100-FR-3

Matrix: WATER

Receipt Date: 28-Jul-93

% Solids: NA

Units: MG/L

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	<1 J	1	02-Aug-93
ORGANIC BROMIDE	<0.01 R	0.01	30-Jul-93
ORGANIC CHLORIDE	<0.01 R	0.01	30-Jul-93
ORGANIC IODIDE	<0.01 R	0.01	30-Jul-93

DKW
10/25/93