START 9713520.0851

B08L79-DAT-246
0046258
338

DATA CHEM LABORATORIES

ENVIRONMENTAL WATER REPORT

Form EPRW-A
Page 1 of 3
Part 1 of 2

Date JUL 01 1993
Agency Identification Number S93-0383
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

JUL 1993 RECEIVED SDLA

Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection June 01, 1993

Date Samples Received at Laboratory June 12, 1993

Analytical Results

Parameter Name / Analysis Date / Units / Method / Prep Method	Field Number / Lab Number	B08L79 EM 1635	B08L84 EM 1636	B08L89 EM 1637	B08L49 EM 1638	B08L09 EM 1639	B08L19 EM 1640	B08L39 EM 1641	B08LD4 EM 1642
Hydrazine 06/16/1993 ASTM D-1385	µg/L	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
1 Analyses completed on or before this date.

** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

1 JAN 1997 RECEIVED EDMC

RECORD COPY

Analyst: Mark A. Hixon

Reviewer: Katherine Kellerberger

Laboratory Supervisor: Norman K. Christensen

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
A Sorenson Company

9713520.0852

DATA CHEM LABORATORIES

ENVIRONMENTAL WATER REPORT

Date JUL 01 1993
Agency Identification Number S93-0383
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection June 01, 1993

Date Samples Received at Laboratory June 12, 1993

Analytical Results

Parameter Name / Analysis Date / Units / Method / Prep Method	Field Number / Lab Number	B08LF3 EM 1643	B08L29 EM 1644	B08L74 EM 1645					* Limit of Detection
Hydrazine 06/16/1993 ASTM D-1385	µg/L	ND*	ND*	ND*					3.

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
¹ Analyses completed on or before this date.

** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

9713520.0853

DATA CHEM LABORATORIES

ENVIRONMENTAL WATER REPORT

Date JUL 01 1993

Agency Identification Number S93-0383

General Set Comments

Case Narrative

Nothing unusual was noted during preparation and analysis of these samples.
QC data for this set is with set SX-0182-AA.

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
A Sorenson Company

9713520.0854

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 6/1/93

Ice Chest No. SML-212

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2536955619

Offsite Property No. W93-0-420-48

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

BO8L79
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

EM 1635

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: K.D. Lee	Received by: PCCole	Date/Time: 6/2/93 0710
Relinquished by: PCCole Reling Frig#4 6/11/93	Received by: K. Trapp	Date/Time: 6/11/93 0850
Relinquished by: K. Trapp 0850	Received by:	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:
relinq. to frig #4 by K.D. Lee 1123
reling. to Frig. #4 by PCC 0710

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

9713520.0855

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 6/2/93

Ice Chest No. SML-212

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2536915561 89 PCC 6/11/93

Offsite Property No. W93-0-420-48

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

BO8L84
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: K.P. Lee	Received by: PC Cole	Date/Time: 6/3/93 0645
Relinquished by: PC Cole Reling frig #4 6/11/93	Received by: K. Trapp / K. Trapp	Date/Time: 6/11/93 0953
Relinquished by: K. Trapp / K. Trapp 0953	Received by: [signature]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:
reling to frig. # 1 by K.D. Lee 1214
Reling to frig # 4 by PCC 0645

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

9713520.0856

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 6/2/93

Ice Chest No. SML-212

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2536955619

Offsite Property No. W93-0-420-48

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

BO8L89
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: K.D. Lee	Received by: PC Cole PC Cole	Date/Time: 6/3/93 0645
Relinquished by: PC Cole PC Cole Reling frig#4	Received by: K. J Mapp / K. Trapp	Date/Time: 6/11/93 0849
Relinquished by: 6/11/93 K. J Mapp / K. Trapp 0849	Received by:	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:
reling. to frig. # 1 by K.D. Lee 6/2/93 1214
reling. to frig # 4 by PCC 6/3/93 0645

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

9713520.0857

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 6/4/93

Ice Chest No. SML-212

Field Logbook No. EFL-0048

Bill of Lading/Airbill No. 2536955619

Offsite Property No. W93-0-420048

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

BO 8L49
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

EM [redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: K.D. Lee K.D. Lee	Received by: PCCole PCCole	Date/Time: 6/7/93 0730
Relinquished by: PCCole PCCole Reling Frig#4	Received by: K. Trapp / K. Trapp	Date/Time: 6/11/93 0851
Relinquished by: 6/11/93 K. Trapp / K. Trapp 0851	Received by: [illegible]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:
reling. to frig. # 1 by KD.Lee 1131
reling. to Frig #4 by PCC 6/7/93 0730

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

9713520.0858

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 6/4/93

Ice Chest No. SML-212

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2536955619

Offsite Property No. W93-0-420-48

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

BO 8L09
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

EM [redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: K.D. Lee	Received by: PCCole PCCole	Date/Time: 6/7/93 0730
Relinquished by: PCCole PCCole Reling Frig#4	Received by: 6/11/93 K. Trapp/K. Trapp 0852	Date/Time: 6/11/93 0852
Relinquished by: 6/11/93 K. Trapp/K. Trapp 0852	Received by:	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:
rel. mg. to frig. #1 by K.D. Lee 1131
reling to frig #4 by PCC 6/7/93 0730

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

9713520.0859

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 6/7/93

Ice Chest No. SML-212

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2536955619

Offsite Property No. W93-0420-48

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

BO 8L19
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

EM 1540

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: [illegible]	Received by: PC Cole PC Cole	Date/Time: 6/8/93 0700
Relinquished by: PC Cole PC Cole Reling Frig 4 6/11/93	Received by: K. Jmpp / K. Trapp	Date/Time: 6/11/93 0848
Relinquished by: K. Jmpp / K. Trapp 0848	Received by: [signature]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: reling. to frig. # 1 by K.A. Cu 1220
Reling to Frig # 4 by PCC 0700

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

9713520.0860

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 6/8/93

Ice Chest No. SML-212

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2536955619

Offsite Property No. W93-0-420-48

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

BO8L39
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

EM 15411

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: K.D. Lee K.D. Lee	Received by: PC Cole PC Cole	Date/Time: 6/11/93 0730
Relinquished by: PC Cole PC Cole	Received by: K. Trapp/K. Trapp	Date/Time: 6/11/93 0856
Relinquished by: 6/11/93 K. Trapp/K. Trapp 0856	Received by: [illegible]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:
relinq. to Arg # 1 by K.D. Lee 1220
Note: Bubbles Present PCC 6/11/93

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

9713520.0861

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-KR-4

Ice Chest No. SML-212

Bill of Lading/Airbill No. 2536955619

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Telephone (509)376-5045

Collection Date 6/9/93

Field Logbook No. ~~EF~~ PCC 6/9/93 EFL-1048

Offsite Property No. W93-0-420-48

Sample Identification

BO8LD4
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: 6/9/93 PCCole PC.Cole 1202	Received by: K.Trapp / K. Trapp	Date/Time: 6/11/93 0854
Relinquished by: 6/11/93 K.Trapp / K. Trapp 0854	Received by: [signature]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:
Reling to Frig#1 on 6/9/93 1202 PCC
Note: Bubbles Present PCC 6/10/93
Moved to Frig#4 on 6/10/93 at 0857. KT

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

9713520.0862

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 6/9/93

Ice Chest No. SML-212

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2536155619

Offsite Property No. W93-0-420-48

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

B08LF3

1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: PC Cole PC Cole 6/9/93 1202	Received by: K. Trapp / K. Trapp	Date/Time: 06/11/93 0855
Relinquished by: K. Trapp / K. Trapp 6/11/93 0855	Received by: [signature]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

Relinq to Frig#1 on 6/9/93 1202 PCC

Note: Bubbles Present PCC 6/10/93

Moved to Frig #4 on 6/10/93 at 0857. KT

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

9713520.0863

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 6/9/93

Ice Chest No. SML-212

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2531955619

Offsite Property No. W93-0-420-48

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

BO8L29
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: AJ Simpson AJ SIMPSON 6/9/93 1226	Received by: PC Cole PC Cole	Date/Time: 6/11/93 0730
Relinquished by: PC Cole PC Cole	Received by: [signature]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: Refrig #4

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

9713520.0864

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-KR-4

Ice Chest No. SML-212

Bill of Lading/Airbill No. 2536955619

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Telephone (509)376-5045

Collection Date 6/10/93

Field Logbook No. EFL-1048

Offsite Property No. W93-0420-48

Sample Identification

BO 8L74

1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: K.D. Lee	Received by: PCCole PCCole	Date/Time: 6/11/93 0730
Relinquished by: PCCole PCCole	Received by: [signature]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relinq. to Fig. # 1 by K.D. Lee 1200

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

9713520.0865

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/10/93 Time 0952 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B08L74	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93- 0-420-48
			BOL: # 2536955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by [signature] Title Sup Tech Date 6-12-93

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

9713520.0866

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/9/93 Time 0930 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8629	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 7536955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by [signature] Title Tech Date 6-12-93

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

9713520.0867

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/7/93 Time 1029 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B08L19	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2536955619
			TASK#: 93-119

Field Information** _____

Special Handling and/or Storage _____

Possible Sample Hazards _____

PART II: LABORATORY SECTION

Received by [signature] Title Tech. Date 6-12-93

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

9713520.0868

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/2/93 Time 1024 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8L89	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93- 0-420-48
			BOL: # 2536955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by [signature] Title Tech Date 6-12-93

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

9713520.0869

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/1/93 Time 0922 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8L79	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2536955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Title Tech. Date 6-12-93

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

9713520.0870

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/4/93 Time 0935 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO8L49	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2536955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by [signature] Title Tech Date 6-12-93

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

9713520.0871

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/4/93 Time 0837 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B08L09	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 25369556189 Pic 6/11/93
			TASK#: 93-119

Field Information** _____

Special Handling and/or Storage _____

Possible Sample Hazards _____

PART II: LABORATORY SECTION

Received by [signature] Title Tech Date 6-12-93

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)

9713520.0872

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/2/93 Time 0853 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8L84	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2531695619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by [signature] Title Tech. Date 6-12-93

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

9713520.0873

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/9/93 Time 0930 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B08LD4	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2536955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Title Date 6-12-93

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

9713520.0874

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/9/93 Time 0930 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B08LF3	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2536955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by [signature] Title Tech. Date 6-12-93

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

9713520.0875

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/8/93 Time 1030 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8L39	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2536955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Title Date 6-12-93

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)

9/25/93

Data Package Receipt Dates

for Project 100-KR-4

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N	VOA	Y N	SEMI VOA	Y N	PEST/PCB	Y N	WETCHEM	Y N	METALS	COMMENTS	Y N	RADCHEM	Date OSM Rcvd DP
																	16555	
B08L05		9306L815	1164	WESTON	Y	7/06/93	Y	7/06/93	Y	7/06/93	Y	7/06/93	Y	7/06/93	06/08/93	Y	8/11/93	8/11/93
B08L06		9306L815	1164	WESTON	N		N		N		N		Y	7/06/93	06/08/93	N		7/06/93
B08L07		9306L815	1164	WESTON	Y	7/06/93	N		N		N		N		06/08/93	N		7/06/93
B08L08		9306L815	1164	WESTON	N		N		N		Y	7/06/93	N		06/08/93	N		7/06/93
B08L09		B08L79	246	DATACHEM	N		N		N		Y	7/07/93	N		06/12/93	N		7/07/93
B08L10		9307L165	1199	WESTON	Y	8/24/93	Y	8/24/93	Y	8/24/93	Y	8/24/93	Y	8/24/93	07/10/93 - SAF-93-119	Y	8/27/93	8/27/93
																	20339	
B08L11		9307L165	1199	WESTON	N		N		N		N		Y	8/24/93	07/10/93	N		8/24/93
B08L12		9307L165	1199	WESTON	Y	8/24/93	N		N		N		N		07/10/93	N		8/24/93
B08L13		9307L165	1199	WESTON	N		N		N		Y	8/24/93	N		07/10/93	N		8/24/93
B08L14		B08L44	251	DATACHEM	N		N		N		Y	8/20/93	N		07/14/93	N		8/20/93
																	16567	
B08L15		9306L821	1161	WESTON	Y	7/06/93	Y	7/06/93	Y	7/06/93	Y	7/06/93	Y	7/06/93	06/09/93	Y	8/11/93	8/11/93
B08L16		9306L821	1161	WESTON	N		N		N		N		Y	7/06/93	06/09/93	N		7/06/93
B08L17		9306L821	1161	WESTON	Y	7/06/93	N		N		N		N		06/09/93	N		7/06/93

9/22 Rcd
Santec
Dalabrau

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Data Package Receipt Dates

for Project 100-KR-4

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N	VOA	Y N	SEMI VOA	Y N	PEST/PCB	Y N	WETCHEM	Y N	METALS	COMMENTS	Y N	RADCHEM	Date OSM Rcvd DP
B08L18		9306L821	1161	WESTON	N		N		N		Y	7/06/93	N		06/09/93	N		7/06/93
B08L19		B08L79	246	DATACHEM	N		N		N		Y	7/07/93	N		06/12/93	N	17441	7/07/93
B08L20		9306L940	1179	WESTON	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	06/17/93	Y	8/06/93	8/06/93
B08L21		9306L940	1179	WESTON	N		N		N		N		Y	8/02/93	06/17/93	N		8/02/93
B08L22		9306L940	1179	WESTON	Y	8/02/93	N		N		N		N		06/17/93	N		8/02/93
B08L23		9306L940	1179	WESTON	N		N		N		Y	8/02/93	N		06/17/93	N		8/02/93
B08L24		B08L64	250	DATACHEM	N		N		N		Y	8/04/93	N		06/30/93	N	16220	8/04/93
B08L25		9306L852	1166	WESTON	Y	7/07/93	Y	7/07/93	Y	7/07/93	Y	7/07/93	Y	7/14/93	06/11/93	Y	8/11/93	8/11/93
B08L26		9306L852	1166	WESTON	N		N		N		N		Y	7/14/93	06/11/93	N		7/14/93
B08L27		9306L852	1166	WESTON	Y	7/07/93	N		N		N		N		06/11/93	N		7/07/93
B08L28		9306L852	1166	WESTON	N		N		N		Y	7/07/93	N		06/11/93	N		7/07/93
B08L29		B08L79	246	DATACHEM	N		N		N		Y	7/07/93	N		06/12/93	N	18534	7/07/93
B08L30		9306L063	1175	WESTON	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	06/29/93	Y	8/06/93	8/06/93

? report RCV 8/13/93 ?

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Data Package Receipt Dates

for Project 100-KR-4

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N VOA	Y N SEMI VOA	Y N PEST/PCB	Y N WETCHEM	Y N METALS	COMMENTS	Y N RADCHEM	Date OSM Rcvd DP
B08L31		9306L063	1175	WESTON	N	N	N	N	Y 8/02/93	06/29/93	N	8/02/93
B08L32		9306L063	1175	WESTON	Y 8/02/93	N	N	N	N	06/29/93	N	8/02/93
B08L33		9306L063	1175	WESTON	N	N	N	Y 8/02/93	N	06/29/93	N	8/02/93
B08L34		B08L64	250	DATACHEM O	N	N	N	Y 8/04/93	N	06/30/93	N 16764	8/04/93
B08L35		9306L830	1162	WESTON	Y 7/06/93	Y 7/06/93	Y 7/06/93	Y 7/06/93	Y 7/06/93	06/10/93	Y 8/11/93	8/11/93
B08L36		9306L830	1162	WESTON	N	N	N	N	Y 7/06/93	06/10/93	N	7/06/93
B08L37		9306L830	1162	WESTON	Y 7/06/93	N	N	N	N	06/10/93	N	7/06/93
B08L38		9306L830	1162	WESTON	N	N	N	Y 7/06/93	N	06/10/93	N	7/06/93
B08L39		B08L79	246	DATACHEM	N	N	N	Y 7/07/93	N	06/12/93	N 18585	7/07/93
B08L40		9307L138	1198	WESTON	Y 8/24/93	Y 8/24/93	Y 8/24/93	Y 8/24/93	Y 8/24/93	07/08/93	Y 8/20/93	8/24/93
B08L41		9307L138	1198	WESTON	N	N	N	N	Y 8/24/93	07/08/93	N	8/24/93
B08L42		9307L138	1198	WESTON	Y 8/24/93	N	N	N	N	07/08/93	N	8/24/93
B08L43		9307L138	1198	WESTON	N	N	N	Y 8/24/93	N	07/08/93	N	8/24/93

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Data Package Receipt Dates

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HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N VOA	Y N SEMI VOA	Y N PEST/PCB	Y N WETCHEM	Y N METALS	COMMENTS	Y N RADCHEM	Date OSM Rcvd DP
B08L44		B08L44	251	DATACHEM	N	N	N	Y 8/20/93	N	07/14/93	N 16553	8/20/93
B08L45		9306L815	1164	WESTON	Y 7/06/93	Y 7/06/93	Y 7/06/93	Y 7/06/93	Y 7/06/93	06/08/93	Y 8/11/93	8/11/93
B08L46		9306L815	1164	WESTON	N	N	N	N	Y 7/06/93	06/08/93	N	7/06/93
B08L47		9306L815	1164	WESTON	Y 7/06/93	N	N	N	N	06/08/93	N	7/06/93
B08L48		9306L815	1164	WESTON	N	N	N	Y 7/06/93	N	06/08/93	N	7/06/93
B08L49		B08L79	246	DATACHEM	N	N	N	Y 7/07/93	N	06/12/93	N 16554	7/07/93
B08L50		9306L816	1167	WESTON	Y 7/07/93	Y 7/07/93	Y 7/07/93	Y 7/07/93	Y 7/07/93	06/09/93	Y 8/11/93	8/11/93
B08L51		9306L816	1167	WESTON	N	N	N	N	Y 7/07/93	06/09/93	N	7/07/93
B08L52		9306L816	1167	WESTON	Y 7/07/93	N	N	N	N	06/09/93	N	7/07/93
B08L53		9306L816	1167	WESTON	N	N	N	Y 7/07/93	N	06/09/93	N	7/07/93
B08L54		B08L54	247	DATACHEM	N	N	N	Y 7/08/93	N	06/09/93	N 17764	7/08/93
B08L55		9306L963	1174	WESTON	Y 8/02/93	Y 8/02/93	Y 8/02/93	Y 8/02/93	Y 8/02/93	06/19/93 - REVISED PU RCVD 9/7/93	Y 8/06/93	8/06/93

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Data Package Receipt Dates

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HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N	VOA	Y N	SEMI VOA	Y N	PEST/PCB	Y N	WETCHEM	Y N	METALS	COMMENTS	Y N	RADCHEM	Date OSM Rcvd DP
B08L56		9306L963	1174	WESTON	N		N		N		N		Y	8/02/93	06/19/93	N		8/02/93
B08L57		9306L963	1174	WESTON	Y	8/02/93	N		N		N		N		06/19/93	N		8/02/93
B08L58		9306L963	1174	WESTON	N		N		N		Y	8/02/93	N		06/19/93	N		8/02/93
B08L59		B08L64	250	DATACHEM	N		N		N		Y	8/04/93	N		06/30/93	N	17741	8/04/93
B08L60		9306L919	1176	WESTON	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	06/16/93	Y	8/06/93	8/06/93
B08L61		9306L919	1176	WESTON	N		N		N		N		Y	8/02/93	06/16/93	N		8/02/93
B08L62		9306L919	1176	WESTON	Y	8/02/93	N		N		N		N		06/16/93	N		8/02/93
B08L63		9306L919	1176	WESTON	N		N		N		Y	8/02/93	N		06/16/93	N		8/02/93
B08L64		B08L64	250	DATACHEM	N		N		N		Y	8/04/93	N		06/30/93	N	19594	8/04/93
B08L65		9307L154	1197	WESTON	Y	8/24/93	Y	8/24/93	Y	8/24/93	Y	8/24/93	Y	8/24/93	07/09/93	Y	8/20/93	8/24/93
B08L66		9307L154	1197	WESTON	N		N		N		N		Y	8/24/93	07/09/93	N		8/24/93
B08L67		9307L154	1197	WESTON	Y	8/24/93	N		N		N		N		07/09/93	N		8/24/93
B08L68		9307L154	1197	WESTON	N		N		N		Y	8/24/93	N		07/09/93	N		8/24/93

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Data Package Receipt Dates

for Project 100-KR-4

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N -	VOA	Y N -	SEMI VOA	Y N -	PEST/PCB	Y N -	WETCHEM	Y N -	METALS	COMMENTS	Y N -	RADCHEM	Date OSM Rcvd DP
B08L69		B08L44	251	DATACHEM	N		N		N		Y	8/20/93	N		07/14/93	N	17753	8/20/93
B08L70		9306L873	1169	WESTON	Y	7/27/93	Y	7/27/93	Y	7/27/93	Y	7/27/93	Y	7/27/93	06/14/93	Y	8/06/93	8/06/93
B08L71		9306L873	1169	WESTON	N		N		N		N		Y	7/27/93	06/14/93	N		7/27/93
B08L72		9306L873	1169	WESTON	Y	7/27/93	N		N		N		N		06/14/93	N		7/27/93
B08L73		9306L873	1169	WESTON	N		N		N		Y	7/27/93	N		06/14/93	N		7/27/93
B08L74		B08L79	246	DATACHEM	N		N		N		Y	7/07/93	N		06/12/93	N	16030	7/07/93
B08L75		9306L764	1163	WESTON	Y	7/06/93	Y	7/06/93	Y	7/06/93	Y	7/06/93	Y	7/06/93	06/03/93	Y	7/27/93	7/27/93
B08L76		9306L764	1163	WESTON	N		N		N		N		Y	7/06/93	06/03/93	N		7/06/93
B08L77		9306L764	1163	WESTON	Y	7/06/93	N		N		N		N		06/03/93	N		7/06/93
B08L78		9306L764	1163	WESTON	N		N		N		Y	7/06/93	N		06/03/93	N		7/06/93
B08L79		B08L79	246	DATACHEM	N		N		N		Y	7/07/93	N		06/12/93	N	16036	7/07/93
B08L80		9306L784	1165	WESTON	Y	7/06/93	Y	7/06/93	Y	7/06/93	Y	7/06/93	Y	7/06/93	06/04/93	Y	7/27/93	7/27/93
B08L81		9306L784	1165	WESTON	N		N		N		N		Y	7/06/93	06/04/93	N		7/06/93

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Data Package Receipt Dates

for Project 100-KR-4

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y VOA	Y SEMI VOA	Y PEST/PCB	Y WETCHEM	Y METALS	COMMENTS	Y RADCHEM	Date OSM Rcvd DP
B08L82		9306L784	1165	WESTON	Y 7/06/93	N	N	N	N	06/04/93	N	7/06/93
B08L83		9306L784	1165	WESTON	N	N	N	Y 7/06/93	N	06/04/93	N	7/06/93
B08L84		B08L79	246	DATACHEM	N	N	N	Y 7/07/93	N	06/12/93	N 16034	7/07/93
B08L85		9306L784	1165	WESTON	Y 7/06/93	Y 7/06/93	Y 7/06/93	Y 7/06/93	Y 7/06/93	06/04/93	Y 7/27/93	7/27/93
B08L86		9306L784	1165	WESTON	N	N	N	N	Y 7/06/93	06/04/93	N	7/06/93
B08L87		9306L784	1165	WESTON	Y 7/06/93	N	N	N	N	06/04/93	N	7/06/93
B08L88		9306L784	1165	WESTON	N	N	N	Y 7/06/93	N	06/04/93	N	7/06/93
B08L89		B08L79	246	DATACHEM	N	N	N	Y 7/07/93	N	06/12/93	N 18534	7/07/93
B08L90		9306L063	1175	WESTON	Y 8/02/93	Y 8/02/93	Y 8/02/93	Y 8/02/93	Y 8/02/93	06/29/93	Y 8/06/93	8/06/93
B08L91	8/13	9306L063	1175	WESTON	N	N	N	N	Y 8/02/93	06/29/93	N	8/02/93
B08L92		9306L063	1175	WESTON	Y 8/02/93	N	N	N	N	06/29/93	N	8/02/93
B08L93		9306L063	1175	WESTON	N	N	N	Y 8/02/93	N	06/29/93	N	8/02/93
B08L94		B08L64	250	DATACHEM	N	N	N	Y 8/04/93	N	06/30/93	N	8/04/93

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Data Package Receipt Dates

for Project 100-KR-4

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N	VOA	Y N	SEMI VOA	Y N	PEST/PCB	Y N	WETCHEM	Y N	METALS	COMMENTS	Y N	RADCHEM	Date OSM Rcvd DP
B08L95		9306L973	1178	WESTON	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	06/22/93	Y	8/06/93 17820	8/06/93
B08L96		9306L973	1178	WESTON	N		N		N		N		Y	8/02/93	06/22/93	N		8/02/93
B08L97		9306L973	1178	WESTON	Y	8/02/93	N		N		N		N		06/22/93	N		8/02/93
B08L98		9306L973	1178	WESTON	N		N		N		Y	8/02/93	N		06/22/93	N		8/02/93
B08L99		B08L64	250	DATACHEM 0	N		N		N		Y	8/04/93	N		06/30/93	N	18534	8/04/93
B08LB0		9306L063	1175	WESTON	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	06/29/93	Y	8/06/93	8/06/93
B08LB1		9306L063	1175	WESTON	N		N		N		N		Y	8/02/93	06/29/93	N		8/02/93
B08LB2	8/19	9306L063	1175	WESTON	Y	8/02/93	N		N		N		N		06/29/93	N		8/02/93
B08LB3		9306L063	1175	WESTON	N		N		N		Y	8/02/93	N		06/29/93	N		8/02/93
B08LB4		B08L64	250	DATACHEM 0	N		N		N		Y	8/04/93	N		06/30/93	N	17764	8/04/93
B08LB5		9306L963	1174	WESTON	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	06/19/93	Y	8/06/93	8/06/93
B08LB6		9306L963	1174	WESTON	N		N		N		N		Y	8/02/93	06/19/93	N		8/02/93
B08LB7		9306L963	1174	WESTON	Y	8/02/93	N		N		N		N		06/19/93	N		8/02/93

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Data Package Receipt Dates

for Project 100-KR-4

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N	VOA	Y N	SEMI VOA	Y N	PEST/PCB	Y N	WETCHEM	Y N	METALS	COMMENTS	Y N	RADCHEM	Date OSM Rcvd DP
B08LB8		9306L963	1174	WESTON	N		N		N		Y	8/02/93	N		06/19/93	N		8/02/93
B08LB9		B08L64	250	DATACHEM 0	N		N		N		Y	8/04/93	N		06/30/93	N	18534	8/04/93
B08LC0		9306L063	1175	WESTON	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	06/29/93 - REVISED PU RCVD 9/7/93	Y	8/06/93	8/06/93
B08LC1		9306L063	1175	WESTON	N		N		N		N		Y	8/02/93	06/29/93	N		8/02/93
B08LC2	8/13	9306L063	1175	WESTON	Y	8/02/93	N		N		N		N		06/29/93	N		8/02/93
B08LC3		9306L063	1175	WESTON	N		N		N		Y	8/02/93	N		06/29/93	N		8/02/93
B08LC4		B08L64	250	DATACHEM 0	N		N		N		Y	8/04/93	N		06/30/93	N	19585	8/04/93
B08LC5		9307L138	1198	WESTON	Y	8/24/93	Y	8/24/93	Y	8/24/93	Y	8/24/93	Y	8/24/93	07/08/93	Y	8/20/93	8/24/93
B08LC6		9307L138	1198	WESTON	N		N		N		N		Y	8/24/93	07/08/93	N		8/24/93
B08LC7		9307L138	1198	WESTON	Y	8/24/93	N		N		N		N		07/08/93	N		8/24/93
B08LC8		9307L138	1198	WESTON	N		N		N		Y	8/24/93	N		07/08/93	N		8/24/93
B08LC9		B08L44	251	DATACHEM	N		N		N		Y	8/20/93	N		07/14/93	N		8/20/93

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Data Package Receipt Dates

for Project 100-KR-4

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N	VOA	Y N	SEMI VOA	Y N	PEST/PCB	Y N	WETCHEM	Y N	METALS	COMMENTS	Y N	RADCHEM	Date OSM Rcvd DP
B08LD0		9306L852	1166	WESTON	Y	7/07/93	Y	7/07/93	Y	7/07/93	Y	7/07/93	Y	7/14/93	06/11/93	Y	8/11/93	8/11/93
B08LD1		9306L852	1166	WESTON	N		N		N		N		Y	7/14/93	06/11/93	N		7/14/93
B08LD2		9306L852	1166	WESTON	Y	7/07/93	N		N		N		N		06/11/93	N		7/07/93
B08LD3		9306L852	1166	WESTON	N		N		N		Y	7/07/93	N		06/11/93	N		7/07/93
B08LD4		B08L79	246	DATACHEM	N		N		N		Y	7/07/93	N		06/12/93	N		7/07/93
B08LD5		9306L963	1174	WESTON	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	Y	8/02/93	06/19/93	Y	8/06/93	8/06/93
B08LD6		9306L963	1174	WESTON	N		N		N		N		Y	8/02/93	06/19/93	N		8/02/93
B08LD7		9306L963	1174	WESTON	Y	8/02/93	N		N		N		N		06/19/93	N		8/02/93
B08LD8		9306L963	1174	WESTON	N		N		N		Y	8/02/93	N		06/19/93	N		8/02/93
B08LD9		B08L64	250	DATACHEM	N		N		N		Y	8/04/93	N		06/30/93	N		8/04/93
B08LF0		B08LF0	527	TMA/NORCAL	Y	8/23/93	Y	8/23/93	Y	8/23/93	Y	8/23/93	Y	8/23/93	06/14/93	Y	8/27/93	8/23/93
B08LF1		B08LF0	527	TMA/NORCAL	N		N		N		N		Y	8/23/93	06/14/93	N		8/23/93
B08LF2		B08LF0	527	TMA/NORCAL	Y	8/23/93	N		N		N		N		06/14/93	N		8/23/93

9/25/93

Data Package Receipt Dates

for Project 100-KR-4

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N	VOA	Y N	SEMI VOA	Y N	PEST/PCB	Y N	WETCHEM	Y N	METALS	COMMENTS	Y N	RADCHEM	Date OSM Rcvd DP
B08LF3		B08L79	246	DATACHEM	N		N		N		Y	7/07/93	N		06/12/93	N		7/07/93
B08LF4		B08LF4	537	TMA/NORCAL	Y	8/23/93	Y	8/23/93	Y	8/23/93	Y	8/23/93	Y	8/23/93	06/21/93 - SAF-93-119	Y	8/27/93	8/27/93
B08LF5		B08LF4	537	TMA/NORCAL	N		N		N		N		Y	8/23/93	06/21/93	N		8/23/93
B08LF6		B08LF4	537	TMA/NORCAL	Y	8/23/93	N		N		N		N		06/21/93	N		8/23/93
B08LF7		B08L64	250	DATACHEM	N		N		N		Y	8/04/93	N		06/30/93	N		8/04/93
B08LF8		9306L919	1176	WESTON	Y	8/02/93	N		N		N		N		06/16/93	N		8/02/93
B08LF9		9306L963	1174	WESTON	Y	8/02/93	N		N		N		N		06/19/93	N		8/02/93

Total HEIS Numbers - 135
Total Client Numbers - 0

Total Samples Complete - 135

9/13/93 0080

Rec 9/22

9713520.0887

DON'T SAY IT --- *Write It!*

DATE: September 27, 1993

TO: B08L79-DAT-246

FROM: Pat Reich H4-19

Telephone: 372-2785

cc:

SUBJECT: 4TH ROUND VALIDATION FOR 100-KR-4

VALIDATION DOCUMENTATION FOR THE FOLLOWING DATA PACKAGERS ARE FILED WITH THIS DATA PACKAGE:

B08L44-DAT-251 CHEM
B08LF4-TMA-537 CHEM AND RAD
B08LF0-TMA-527 CHEM AND RAD
9306L063-WES-1175 CHEM
9306L852-WES-1166 CHEM
9306L919-WES-1176 CHEM
9306L963-WES-1174 CHEM
9307L138-WES-1198 CHEM
16770-WES-1193 RAD
17764-WES-1187 RAD
18534-WES-1185 RAD
19585-WES-1209 RAD

PAT REICH
SDLA

9713520.0888

Validation Reports 100-KR-4

DATA VALIDATION REPORT FOR THE 100-KR-4 OPERABLE UNIT FOURTH ROUND GROUNDWATER SAMPLING

Submitted To:

Westinghouse Hanford Company
P.O. Box 1970
2355 Stevens Drive
Richland, WA 99352

Submitted By:

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In Response To:

Purchase Order 272980
Task Order K-93-22

Document Control Number
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SEP 1993
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TQO

September 1993

DISCLAIMER

This report is designated as Revision 0. The report covers a specific site for a specific sampling time frame. The report addresses only those samples that have been provided for data validation review.

At the request of Westinghouse Hanford Company (Westinghouse-Hanford), a minimum of 20% of the total number of Sample Delivery Groups received by A.T. Kearney, Inc. from the 100-KR-4 Operable Unit Fourth Round Groundwater Sampling Remedial Investigation and their related quality assurance samples were reviewed and validated to verify that reported sample results were of sufficient quality to meet quality control objectives. With the consent of Westinghouse-Hanford, Sample Delivery Groups were chosen by A.T. Kearney, Inc. randomly, but reflect the overall character of samples within the unit. Findings are, however, insufficient to allow for extrapolation of these validation results to other unvalidated samples of Sample Delivery Groups within the 100-KR-4 Operable Unit.

ACRONYMS

%D	Percent difference
AA	Atomic absorption
BFB	Bromofluorobenzene
BNA	Base/neutral and acid (equivalent to semivolatiles)
CCB	Continuing calibration blank
CCV	Continuing calibration verification
CLP	Contract Laboratory Program
CRA	CRDL standard for AA
CRDL	Contract required detection limit
CRI	CRDL standard for ICP
CRII	CRDL standard for ICP initial
CRIF	CRDL standard for ICP final
CRQL	Contract required quantitation limit
DBC	Dibutylchlorendate
DFTPP	Decafluorotriphenylphosphine
DQO	Data quality objectives
EPA	U.S. Environmental Protection Agency
GC/MS	Gas chromatography/mass spectrometry
GC	Gas chromatography
GFAA	Graphite furnace atomic absorption
GPC	Gel permeation chromatography
ICB	Initial Calibration Blank
ICP	Inductively coupled plasma emission spectrometry
ICS	ICP interference check sample
ICV	Initial calibration verification
IDL	Instrument detection limit
LCS	Laboratory control sample
LCSS	Laboratory control sample soil
LCSW	Laboratory control sample water
MSA	Method of standard addition
MS/MSD	Matrix spike/matrix spike duplicate
NV	Not Validated
PCB	Polychlorinated biphenyl
PEM	Performance evaluation mixture
QA	Quality assurance
QC	Quality control
RF	Response factor
RIC	Reconstructed ion chromatogram
RPD	Relative percent difference
RRF	Relative response factor
RRT	Relative retention time
RSD	Relative standard deviation
RT	Retention time
SDG	Sample delivery group
SOW	Statement of work
TAL	Target analyte list
TCL	Target compound list
TIC	Tentatively identified compounds
TOC	Total organic carbon
TOX	Total organic halides
V	Validated
VOC	Volatile organic compounds

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1.0 INTRODUCTION

The following samples were obtained from the 100-KR-4 Operable Unit Fourth Round Groundwater Sampling event:

B08L05	B08L32	B08L59	B08L86	B08LC3
B08L06	B08L33	B08L60	B08L87	B08LC4
B08L07	B08L34	B08L61	B08L88	B08LC5
B08L08	B08L35	B08L62	B08L89	B08LC6
B08L09	B08L36	B08L63	B08L90	B08LC7
B08L10	B08L37	B08L64	B08L91	B08LC8
B08L11	B08L38	B08L65	B08L92	B08LC9
B08L12	B08L39	B08L66	B08L93	B08LD0
B08L13	B08L40	B08L67	B08L94	B08LD1
B08L14	B08L41	B08L68	B08L95	B08LD2
B08L15	B08L42	B08L69	B08L96	B08LD3
B08L16	B08L43	B08L70	B08L97	B08LD4
B08L17	B08L44	B08L71	B08L98	B08LD5
B08L18	B08L45	B08L72	B08L99	B08LD6
B08L19	B08L46	B08L73	B08LB0	B08LD7
B08L20	B08L47	B08L74	B08LB1	B08LD8
B08L21	B08L48	B08L75	B08LB2	B08LD9
B08L22	B08L49	B08L76	B08LB3	B08LF0
B08L23	B08L50	B08L77	B08LB4	B08LF1
B08L24	B08L51	B08L78	B08LB5	B08LF2
B08L25	B08L52	B08L79	B08LB6	B08LF3
B08L26	B08L53	B08L80	B08LB7	B08LF4
B08L27	B08L54	B08L81	B08LB8	B08LF5
B08L28	B08L55	B08L82	B08LB9	B08LF6
B08L29	B08L56	B08L83	B08LC0	B08LF7
B08L30	B08L57	B08L84	B08LC1	B08LF8
B08L31	B08L58	B08L85	B08LC2	B08LF9

Westinghouse-Hanford has requested that a minimum of 20% of the total number of Sample Delivery Groups be validated for the 100-KR-4 Operable Unit Fourth Round Groundwater Sampling Investigation. Therefore, the data from the chemical analysis of 82 samples from this sampling event and their related quality assurance samples were reviewed and validated to verify that reported sample results were of sufficient quality to support decisions regarding remedial actions performed at this site. The samples were analyzed by Thermo-Analytic Laboratories (TMA) and Roy F. Weston Laboratories (WESTON) using U.S. Environmental Protection Agency (EPA) CLP protocols.

Sample analyses included:

- Volatile organics

- Semivolatile organics
- Pesticide/PCB organics
- Inorganics
- General chemical parameters.

The table below lists the Sample Delivery Groups (SDGs) that were validated for this sampling event. The validated data and the non-validated results for the remaining samples are included in this report.

SDG No.	Matrix	No. of Samples Analyzed	Parameters
B08L09	W	11	Hydrazine
B08L14	W	4	Hydrazine
B08L24	W	11	Hydrazine
B08L25	W	4	VOC; Inorganics; Wet Chemistry
B08L25	W	2	BNA; Pest/PCBs
B08L30	W	8	VOC; Inorganics; Wet Chemistry
B08L30	W	4	BNA; Pest/PCBs
B08L40	W	4	VOC; Inorganics; Wet Chemistry
B08L40	W	2	BNA; Pest/PCBs
B08L55	W	7	VOC
B08L55	W	6	Inorganics; Wet Chemistry
B08L55	W	3	BNA; Pest/PCBs
B08L60	W	3	VOC
B08L60	W	2	Inorganics; Wet Chemistry
B08L60	W	1	BNA; Pest/PCBs
B08LF0	W	2	VOC
B08LF0	W	1	BNA; Pest/PCBs; ; Inorganics; Wet Chemistry
B08LF1	W	1	Inorganics
B08LF4	W	2	VOC
B08LF4	W	1	BNA; Pest/PCBs; Inorganics; Wet Chemistry
B08LF5	W	1	Inorganics

Seventeen samples were validated for radiochemical parameters by TMA and Teledyne. Analytical protocols specified in the *Westinghouse Hanford Company Statement of Work for Nonradioactive Inorganic/Organic and Radiochemical Analytical Services* were used. Sample analyses included the following:

- Gross alpha and gross beta determination
- Alpha spectroscopy
- Gamma spectroscopy
- Strontium-90
- Technetium-99
- Carbon-14
- Tritium.

SDG No.	Matrix	No. of Samples Analyzed	Parameters
B08L25	W	3	Radiochemistry
B08L30	W	4	Radiochemistry
B08L40	W	2	Radiochemistry
B08L55	W	6	Radiochemistry
B08LF0	W	1	Radiochemistry
B08LF4	W	1	Radiochemistry

The radiochemical data summary tables can be found following Section 13.8.

Data quality was reviewed and analytical results validated using Westinghouse-Hanford procedures and related EPA CLP protocols and guidelines. Data were qualified based upon their quality and the guidance provided by these sources. In instances where the two protocols differed, the Westinghouse-Hanford guidance was followed.

Two sets of split samples were submitted to TMA and Roy F. Weston Laboratories as shown below:

Set 1:

Sample No.	Split Sample No.	Well Location
B08L25, B08L28	B08LF0	199-K-20
B08L26	B08LF1	199-K-20
B08L27	B08LF2	199-K-20
B08L29	B08LF3	199-K-20

Set 2:

Sample No.	Split Sample No.	Well Location
B08LB5, B08LB8	B08LF4	699-73-61
B08LB6	B08LF5	699-73-61
B08LB7	B08LF6	699-73-61
B08LB9	B08LF7	699-73-61

The sample and split samples for BOTH well locations were included in the validated data. The results were compared using the sample guidelines for determining the RPD between a sample and its duplicate. All results for both well locations appear in the summary tables within this report.

Two sets of field duplicate samples were submitted to TMA as shown below.

Set 1:

Sample No.	Duplicate Sample No.	Well Location
B08L25	B08LD0	199-K-20
B08L26	B08LD1	199-K-20
B08L27	B08LD2	199-K-20
B08L28	B08LD3	199-K-20
B08L29	B08LD4	199-K-20

Set 2:

Sample No.	Duplicate Sample No.	Well Location
B08LB5	B08LD5	699-73-61
B08LB6	B08LD6	699-73-61
B08LB7	B08LD7	699-73-61
B08LB8	B08LD8	699-73-61
B08LB9	B08LD9	699-73-61

The duplicate sample results for both well locations were included in the validated data. The results were compared using the sample guidelines for determining the RPD between a sample and its duplicate. All results fell within the required control limit. All results for both well locations appear in the summary tables within this report.

Two sets of equipment blanks were submitted to TMA as shown in the table below. The first set was collected on 6/26/93 and designated EB-1. The second set was collected on 7/6/93 and designated EB-2.

Set 1:	Set 2:
Sample Number	Sample Number
B08LC0	B08LC5
B08LC1	B08LC6
B08LC2	B08LC7
B08LC3	B08LC8
B08LC4	B08LC9

Under EPA protocol, equipment blanks are water samples used to indicate whether or not decontamination procedures were adequate or that contamination was not inherent in the equipment used. The equipment blank information provided was inadequate to determine what contamination, if any, was a result of the equipment used. Equipment blanks require well number locations and associated sample numbers in order to make such a determination.

The report is broken down into sections for each chemical analysis and radiochemical analysis type. Each section addresses the data package completeness, holding time adherence, instrument calibration and tuning acceptability, blank results, accuracy, precision, system performance, as well as the compound identification and quantitation. In addition, each section has an overall assessment and summary for the data packages reviewed for the particular chemical/radiochemical analyses. Detailed backup information is provided to the reader by SDG No. and sample number. For each data package, a matrix of chemical analysis per sample number is presented, as well as data qualification summaries.

Laboratory and data validation personnel added qualifiers to the reported data based on specified data quality objectives. The data reporting qualifiers are summarized as follows:

U - Indicates the analyte was analyzed for and not detected. The value reported is the sample quantitation limit corrected for dilutions and moisture content. It should be noted that the sample quantitation limit may be higher or lower than the contract or method required detection limit, depending on instrumentation, matrix and concentration factors.

J - Indicates the analyte was analyzed for and detected. However, the associated value is considered to be an estimate due to identified QC deficiencies. Data flagged with a "J" may be usable for decision making purposes, depending upon the DQOs of the project. Laboratories qualify all reported organic detects below CRQL with a "J" per the CLP procedures.

UJ - Indicates the analyte was analyzed for and not detected. However, the associated detection limit is considered to be an estimate due to identified QC deficiencies. Detection limits flagged with a "UJ" may be usable for decision making purposes, depending upon the DQOs of the project.

JN - Indicates the analyte was analyzed for and that there is presumptive evidence of the presence of the compound. The concentration reported is considered an estimate which should be used for informational purposes only.

R - Indicates the analyte was analyzed for and due to a significant QC deficiency, the data are deemed unusable. Analytic results flagged "R" are invalid and provide no information as to whether or not the analyte is present.

The results of data validation performed for the 100-KR-4 Operable Unit Fourth Round Groundwater Sampling Investigation are contained in the tables following each of the chapters in this report.

Several general quality trends which resulted in data qualification were observed. These included:

- Minor laboratory blank contamination was noted in the volatile and semivolatile results for some samples. The contaminants were compounds commonly found in analytical laboratories and the corresponding sample results were flagged accordingly.

- The surrogate recovery results for five pesticide/PCB samples did not meet QC limits. All associated sample results were flagged "J".

- The metals analysis showed minor matrix spike accuracy problems, laboratory duplicate RPD results outside of QC and analytical spike recoveries below the QC limit. Approximately 20 percent of the metals results were flagged "J" due to these factors.

- Some laboratory blank contamination was noted in the inorganics analysis. Associated results were flagged accordingly. Contamination, however, was not sufficiently high to affect the usability of the data.

- The holding time from sample collection to preparation and analysis was exceeded for pH, phosphate and hydrazine in several wet chemistry data packages. In one data package results were grossly exceeded. Associated results were flagged accordingly.

- Insufficient calibrations were performed by the laboratory for several wet chemistry analyses in numerous data packages. All associated results were flagged accordingly.

- Due to low chemical yields, the isotopic plutonium, americium-241 and technetium-99 results in several samples were rejected and flagged "R".

- All alpha spectroscopy results in two SDGs were qualified as estimates due to peak resolution results outside of QC limits.

In general, the protocol-specific QA/QC requirements were met for the samples analyzed in this investigation with the exceptions noted above and discussed in detail in the chapters to follow. All requested analyses were performed.

With the exceptions noted above, the protocol-specific data quality objectives in terms of precision, accuracy, completeness, representativeness, and comparability have been met.

WELL AND SAMPLE INFORMATION					SAMPLE LOCATION INFORMATION
SAMPLE LOCATION	SAMPLE NUMBER	MATRIX	DATE SAMPLED	NV/V	VOLATILES
199-K-11	B08L05	W	06/04/93	NV	2-5
	B08L07	W	06/04/93	NV	2-5
199-K-13	B08L10	W	07/08/93	NV	2-6
	B08L12	W	07/08/93	NV	2-6
199-K-18	B08L15	W	06/07/93	NV	2-7
	B08L17	W	06/07/93	NV	2-7
199-K-19	B08L20	W	06/15/93	NV	2-8
	B08L22	W	06/15/93	NV	2-8
199-K-20	B08L25	W	06/09/93	V	2-9
	B08L27	W	06/09/93	V	2-9
	B08LD0	W	06/09/93	V	2-9
	B08LD2	W	06/09/93	V	2-9
	B08LF0	W	06/09/93	V	2-31
	B08LF2	W	06/09/93	V	2-31
199-K-21	B08L30	W	06/25/93	V	2-12
	B08L32	W	06/25/93	V	2-12
199-K-22	B08L35	W	06/08/93	NV	2-15
	B08L37	W	06/08/93	NV	2-15
199-K-23	B08L40	W	07/06/93	V	2-16
	B08L42	W	07/06/93	V	2-16
199-K-27	B08L45	W	06/04/93	NV	2-5
	B08L47	W	06/04/93	NV	2-5
199-K-30	B08L50	W	06/03/93	NV	2-19
	B08L52	W	06/03/93	NV	2-19
199-K-31	B08L55	W	06/16/93	V	2-20
	B08L57	W	06/16/93	V	2-20
199-K-32A	B08L60	W	06/14/93	V	2-23
	B08L62	W	06/14/93	V	2-23
199-K-32B	B08L65	W	07/07/93	NV	2-26
	B08L67	W	07/07/93	NV	2-26
199-K-33	B08L70	W	06/10/93	NV	2-27
	B08L72	W	06/10/93	NV	2-27
199-K-34	B08L75	W	06/01/93	NV	2-28
	B08L77	W	06/01/93	NV	2-28

WELL AND SAMPLE INFORMATION					SAMPLE LOCATION INFORMATION
SAMPLE LOCATION	SAMPLE NUMBER	MATRIX	DATE SAMPLED	NV/V	VOLATILES
199-K-35	B08L80	W	06/02/93	NV	2-29
	B08L82	W	06/02/93	NV	2-29
199-K-36	B08L85	W	06/02/93	NV	2-29
	B08L88	W	06/02/93	NV	2-29
199-K-37	B08L90	W	06/26/93	V	2-12
	B08L92	W	06/26/93	V	2-12
699-70-68	B08L95	W	06/18/93	NV	2-30
	B08L97	W	06/18/93	NV	2-30
699-78-62	B08LB0	W	06/26/93	V	2-12
	B08LB2	W	06/26/93	V	2-12
699-73-61	B08LB5	W	06/17/93	V	2-20
	B08LB7	W	06/17/93	V	2-20
	B08LD5	W	06/17/93	V	2-20
	B08LD7	W	06/17/93	V	2-20
	B08LF4	W	06/17/93	V	2-32
	B08LF6	W	06/17/93	V	2-32
EB-1	B08LC0	W	06/26/93	V	2-12
	B08LC2	W	06/26/93	V	2-12
EB-2	B08LC5	W	07/06/93	V	2-16
	B08LC7	W	07/06/93	V	2-16
MB-1	B08LF8	W	06/14/93	V	2-23
MB-2	B08LF9	W	06/17/93	V	2-20

2.0 VOLATILE ORGANIC DATA VALIDATION

2.1 DATA PACKAGE COMPLETENESS

The following data packages (SDG Nos.) were submitted for validation and found to be complete:

B08L25	B08L40	B08L60	B08LF4
B08L30	B08L55	B08LF0	

2.2 HOLDING TIMES

Analytical holding times were assessed to ascertain whether the Westinghouse-Hanford holding time requirements for volatile organic analyses were met by the laboratory. The Westinghouse-Hanford holding time requirements for volatile organic analyses are as follows: soil samples must be analyzed within 14 days of the date of sample collection; aqueous samples must be analyzed within seven days of the date of sample collection (if unpreserved); and all samples must be shipped on ice to the laboratory and stored at 4°C until analysis.

Holding times were met for all samples.

2.3 INSTRUMENT CALIBRATION AND TUNING

Instrument calibration is performed to establish that the GC/MS instrument is capable of producing acceptable and reliable analytical data over a range of concentrations. The initial and continuing calibrations are to be performed according to CLP protocols. An initial multipoint calibration is performed prior to sample analysis to establish the linear range of the GC/MS instrument. Continuing calibration checks are performed to verify that instrument performance is stable and reproducible on a day-to-day basis.

All initial and continuing calibration results were acceptable.

2.3.1 GC/MS Tuning/Instrument Performance Check

Tuning is performed to ensure that mass resolution, identification, and, to some degree, sensitivity of the GC/MS instrument have been established. When analyzing for volatile organics, instrument tuning is performed with BFB. Instrument tuning must be performed prior to the analysis of either

standards or samples and must meet the criteria for acceptable GC/MS instrument tuning using BFB as outlined in Westinghouse-Hanford (WHC 1992) and in EPA (EPA 1988b and 1991) criteria.

The original data were checked for transcription and calculation errors to verify that tuning criteria were met. Prior to calibration and sample analysis, all tuning criteria were met.

All GC/MS tuning data were acceptable.

2.4 BLANKS

Method blank, field blank and trip blank analyses are performed to determine the extent of laboratory or field contamination of samples. No contaminants should be present in the blanks. Analytical results for analytes present in any sample at less than 5 times the concentration of that analyte found in associated blanks should be qualified as non-detects; common laboratory contaminants present in samples at less than 10 times the concentration of that analyte in the associated blank are qualified as non-detects.

Due to the presence of laboratory blank contamination, the following samples were flagged "U" for methylene chloride:

- Sample numbers B08L30, B08L90, B08LB0 and B08LC0 in SDG No. B08L30.
- Sample number B08L60 in SDG No. B08L60.

Due to the presence of laboratory blank contamination, the following samples were flagged "U" for acetone:

- Sample number B08L25 in SDG No. B08L25.
- Sample number B08LC0 in SDG No. B08L30.
- Sample number B08LD5 in SDG No. B08L55.

Due to the presence of trip blank contamination, the following sample was flagged "U" for methylene chloride:

- Sample number B08LC5 in SDG No. B08L40.

All other laboratory, field and trip blank results were acceptable.

2.5 ACCURACY

Accuracy was assessed by evaluating the recoveries of stable isotopically labeled surrogate compounds added to all samples and blanks, and by the analysis of a representative sample which was spiked with a variety of volatile organic compounds.

2.5.1 Matrix Spike Recovery

Matrix spike compounds are added to a sample which is representative of the sample delivery group. Matrix spike analyses are performed in duplicate using five compounds and should be within the established quality control limits (EPA 1988b). The matrix spike analyses estimate how much the target compounds are interfered with, either positively or negatively, by the sample matrix.

All MS/MSD results were acceptable.

2.5.2 Surrogate Recovery

Matrix-specific surrogate compound recovery control windows have been established by the EPA CLP program. When a surrogate compound recovery is out of the control window, all positively identified target compounds associated with the unacceptable surrogate recoveries are qualified as estimates (J). Undetected compounds are qualified as having an estimated detection limit (UJ).

All surrogate recovery results were acceptable.

2.6 PRECISION

Precision is expressed by the relative percent difference (RPD) between the recoveries of duplicate matrix spike analyses performed on a sample. When the laboratory has not performed duplicate spike analyses, precision may also be assessed using unspiked duplicate sample analyses. Field precision is measured by analyzing duplicate samples taken in the field.

All matrix spike/matrix spike duplicate RPD results were acceptable.

2.7 INTERNAL STANDARDS PERFORMANCE

Internal standard performance was assessed to determine whether abrupt changes in instrument response and sensitivity occurred that may have affected the reliability of the analytical data. The response (area or height) of the internal standards must not vary by more than 100 percent or -50 percent from the response of the internal standard that was used to calculate the upper and lower bounds. The upper and lower bounds define the range for acceptable internal standard response (area/height) for the sample analyses.

All internal standard recovery results were acceptable.

2.8 COMPOUND IDENTIFICATION AND QUANTITATION

The identity of detected compounds are confirmed to investigate the possibility of false positives. The confirmation of compound identification during the quality assurance review focuses on false positives because only mass spectra for positive identifications are submitted. However, target compounds that are reported as undetected are also evaluated to investigate the possibility of false negatives. Confirmation of possible false negatives is addressed by reviewing other factors relating to analytical sensitivity (e.g., relative response factors, detection limits, linearity, analytical recovery).

Compound quantitations and reported detection limits were recalculated for a minimum of 20 percent of the samples in each case to verify that they are accurate and are consistent with CLP requirements.

Below the CRQL, instrument precision becomes more variable as the instrument detection limit is approached. Therefore, the concentration of any compound that was detected below the CRQL was qualified as an estimate (J).

All reported results and quantitation limits were verified as correct.

2.9 OVERALL ASSESSMENT AND SUMMARY

A thorough review of ongoing data acquisition and instrument performance criteria was made to assess overall GC/MS instrument performance. No changes in instrument performance were noted that would result in the degradation of data quality. No indications of unacceptable instrument performance (i.e., shifts in baseline stability, retention time shifts, extraneous peaks, or sensitivity) were found during the quality assurance review.

In general, the volatile data presented in this report met the protocol-specified QA/QC requirements. Minor blank contamination was detected in nine samples, eight from laboratory blank contamination and one due to trip blank contamination. All other validated data are considered valid and usable within the standard error associated with the method.

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L05																				
Sample Number		B08L05		B08L07		B08L45		B08L47													
Location		199-K-11		199-K-11		199-K-27		199-K-27													
Remarks		NV		NV, TB		NV		NV, TB													
Sample Date		06/04/93		06/04/93		06/04/93		06/04/93													
Analysis Date		06/10/93		06/10/93		06/10/93		06/10/93													
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U	10	U	10	U												
Bromomethane	10	10	U	10	U	10	U	10	U												
Vinyl Chloride	10	10	U	10	U	10	U	10	U												
Chloroethane	10	10	U	10	U	10	U	10	U												
Methylene Chloride	10	1	J	1	J	1	J	3	J												
Acetone	10	10	U	10	U	10	U	10	U												
Carbon Disulfide	10	10	U	10	U	10	U	10	U												
1,1-Dichloroethene	10	10	U	10	U	10	U	10	U												
1,1-Dichloroethane	10	10	U	10	U	10	U	10	U												
1,2-Dichloroethene (total)	10	10	U	10	U	10	U	10	U												
Chloroform	10	2	J	10	U	13		10	U												
1,2-Dichloroethane	10	10	U	10	U	10	U	10	U												
2-Butanone	10	10	U	10	U	10	U	10	U												
1,1,1-Trichloroethane	10	10	U	10	U	10	U	10	U												
Carbon Tetrachloride	10	10	U	10	U	10	U	10	U												
Bromodichloromethane	10	10	U	10	U	10	U	10	U												
1,2-Dichloropropane	10	10	U	10	U	10	U	10	U												
cis-1,3-Dichloropropene	10	10	U	10	U	10	U	10	U												
Trichloroethene	10	7	J	10	U	10	U	10	U												
Dibromochloromethane	10	10	U	10	U	10	U	10	U												
1,1,2-Trichloroethane	10	10	U	10	U	10	U	10	U												
Benzene	10	10	U	10	U	10	U	10	U												
trans-1,3-Dichloropropene	10	10	U	10	U	10	U	10	U												
Bromoform	10	10	U	10	U	10	U	10	U												
4-Methyl-2-pentanone	10	10	U	10	U	10	U	10	U												
2-Hexanone	10	10	U	10	U	10	U	10	U												
Tetrachloroethene	10	10	U	10	U	10	U	10	U												
1,1,2,2-Tetrachloroethane	10	10	U	10	U	10	U	10	U												
Toluene	10	10	U	10	U	10	U	10	U												
Chlorobenzene	10	10	U	10	U	10	U	10	U												
Ethylbenzene	10	10	U	10	U	10	U	10	U												
Styrene	10	10	U	10	U	10	U	10	U												
Xylene (total)	10	10	U	10	U	10	U	10	U												

NV = Not Validated, TB = Trip Blank

9713520.0905

WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L10																				
Sample Number		B08L10		B08L12																	
Location		199-K-13		199-K-13																	
Remarks		NV		NV, TB																	
Sample Date		07/08/93		07/08/93																	
Analysis Date		07/14/93		07/14/93																	
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U																
Bromomethane	10	10	U	10	U																
Vinyl Chloride	10	10	U	10	U																
Chloroethane	10	10	U	10	U																
Methylene Chloride	10	10		8	J																
Acetone	10	10	U	10	U																
Carbon Disulfide	10	10	U	10	U																
1,1-Dichloroethene	10	10	U	10	U																
1,1-Dichloroethane	10	10	U	10	U																
1,2-Dichloroethene (total)	10	10	U	10	U																
Chloroform	10	10		10	U																
1,2-Dichloroethane	10	10	U	10	U																
2-Butanone	10	10	U	10	U																
1,1,1-Trichloroethane	10	10	U	10	U																
Carbon Tetrachloride	10	10	U	10	U																
Bromodichloromethane	10	10	U	10	U																
1,2-Dichloropropane	10	10	U	10	U																
cis-1,3-Dichloropropene	10	10	U	10	U																
Trichloroethene	10	1	J	10	U																
Dibromochloromethane	10	10	U	10	U																
1,1,2-Trichloroethane	10	10	U	10	U																
Benzene	10	10	U	10	U																
trans-1,3-Dichloropropene	10	10	U	10	U																
Bromoform	10	10	U	10	U																
4-Methyl-2-pentanone	10	10	U	10	U																
2-Hexanone	10	10	U	10	U																
Tetrachloroethene	10	10	U	10	U																
1,1,2,2-Tetrachloroethane	10	10	U	10	U																
Toluene	10	10	U	10	U																
Chlorobenzene	10	10	U	10	U																
Ethylbenzene	10	10	U	10	U																
Styrene	10	10	U	10	U																
Xylene (total)	10	10	U	10	U																

NV = Not Validated, TB = Trip Blank

9713520.0006
WHC-SD-EN-TI-200, Rev. 0

VOLATILE ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L15																				
Sample Number		B08L15		B08L17																	
Location		199-K-18		199-K-18																	
Remarks		NV		NV, TB																	
Sample Date		06/07/93		06/07/93																	
Analysis Date		06/12/93		06/11/93																	
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U																
Bromomethane	10	10	U	10	U																
Vinyl Chloride	10	10	U	10	U																
Chloroethane	10	10	U	10	U																
Methylene Chloride	10	10	U	7	J																
Acetone	10	5	J	10	U																
Carbon Disulfide	10	10	U	10	U																
1,1-Dichloroethene	10	10	U	10	U																
1,1-Dichloroethane	10	10	U	10	U																
1,2-Dichloroethene (total)	10	10	U	10	U																
Chloroform	10	8	J	10	U																
1,2-Dichloroethane	10	10	U	10	U																
2-Butanone	10	10	U	10	U																
1,1,1-Trichloroethane	10	10	U	10	U																
Carbon Tetrachloride	10	10	U	10	U																
Bromodichloromethane	10	10	U	10	U																
1,2-Dichloropropane	10	10	U	10	U																
cis-1,3-Dichloropropene	10	10	U	10	U																
Trichloroethene	10	10	U	10	U																
Dibromochloromethane	10	10	U	10	U																
1,1,2-Trichloroethane	10	10	U	10	U																
Benzene	10	10	U	10	U																
trans-1,3-Dichloropropene	10	10	U	10	U																
Bromoform	10	10	U	10	U																
4-Methyl-2-pentanone	10	10	U	10	U																
2-Hexanone	10	10	U	10	U																
Tetrachloroethene	10	10	U	10	U																
1,1,2,2-Tetrachloroethane	10	10	U	10	U																
Toluene	10	10	U	10	U																
Chlorobenzene	10	10	U	10	U																
Ethylbenzene	10	10	U	10	U																
Styrene	10	10	U	10	U																
Xylene (total)	10	10	U	10	U																

NV = Not Validated, TB = Trip Blank

9713520.0907

VOLATILE ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L20																				
Sample Number		B08L20		B08L22																	
Location		199-K-19		199-K-19																	
Remarks		NV		NV, TB																	
Sample Date		06/15/93		06/15/93																	
Analysis Date		06/25/93		06/25/93																	
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U																
Bromomethane	10	10	U	10	U																
Vinyl Chloride	10	10	U	10	U																
Chloroethane	10	10	U	10	U																
Methylene Chloride	10	1	J	9	J																
Acetone	10	10	U	10	U																
Carbon Disulfide	10	10	U	10	U																
1,1-Dichloroethene	10	10	U	10	U																
1,1-Dichloroethane	10	10	U	10	U																
1,2-Dichloroethene (total)	10	10	U	10	U																
Chloroform	10	2	J	10	U																
1,2-Dichloroethane	10	10	U	10	U																
2-Butanone	10	10	U	10	U																
1,1,1-Trichloroethane	10	10	U	10	U																
Carbon Tetrachloride	10	10	U	10	U																
Bromodichloromethane	10	10	U	10	U																
1,2-Dichloropropane	10	10	U	10	U																
cis-1,3-Dichloropropene	10	10	U	10	U																
Trichloroethene	10	10	U	10	U																
Dibromochloromethane	10	10	U	10	U																
1,1,2-Trichloroethane	10	10	U	10	U																
Benzene	10	10	U	10	U																
trans-1,3-Dichloropropene	10	10	U	10	U																
Bromoform	10	10	U	10	U																
4-Methyl-2-pentanone	10	10	U	10	U																
2-Hexanone	10	10	U	10	U																
Tetrachloroethene	10	10	U	10	U																
1,1,2,2-Tetrachloroethane	10	10	U	10	U																
Toluene	10	10	U	10	U																
Chlorobenzene	10	10	U	10	U																
Ethylbenzene	10	10	U	10	U																
Styrene	10	10	U	10	U																
Xylene (total)	10	10	U	10	U																

NV = Not Validated, TB = Trip Blank

9713520.0008
WHC-SD-EN-TI-200, Rev. 0

VOLATILE ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L25																				
Sample Number		B08L25		B08L27		B08LD0		B08LD2													
Location		199-K-20		199-K-20		199-K-20		199-K-20													
Remarks				TB		DUP		DUP, TB													
Sample Date		06/09/93		06/09/93		06/09/93		06/09/93													
Analysis Date		06/15/93		06/15/93		06/15/93		06/15/93													
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U	10	U	10	U												
Bromomethane	10	10	U	10	U	10	U	10	U												
Vinyl Chloride	10	10	U	10	U	10	U	10	U												
Chloroethane	10	10	U	10	U	10	U	10	U												
Methylene Chloride	10	10	U	5	J	10	U	4	J												
Acetone	10	10	U	10	U	10	U	2	J												
Carbon Disulfide	10	10	U	10	U	10	U	10	U												
1,1-Dichloroethene	10	10	U	10	U	10	U	10	U												
1,1-Dichloroethane	10	10	U	10	U	10	U	10	U												
1,2-Dichloroethene (total)	10	10	U	10	U	10	U	10	U												
Chloroform	10	2	J	10	U	2	J	10	U												
1,2-Dichloroethane	10	10	U	10	U	10	U	10	U												
2-Butanone	10	10	U	10	U	10	U	10	U												
1,1,1-Trichloroethane	10	10	U	10	U	10	U	10	U												
Carbon Tetrachloride	10	10	U	10	U	10	U	10	U												
Bromodichloromethane	10	10	U	10	U	10	U	10	U												
1,2-Dichloropropane	10	10	U	10	U	10	U	10	U												
cis-1,3-Dichloropropene	10	10	U	10	U	10	U	10	U												
Trichloroethene	10	10	U	10	U	10	U	10	U												
Dibromochloromethane	10	10	U	10	U	10	U	10	U												
1,1,2-Trichloroethane	10	10	U	10	U	10	U	10	U												
Benzene	10	10	U	10	U	10	U	10	U												
trans-1,3-Dichloropropene	10	10	U	10	U	10	U	10	U												
Bromoform	10	10	U	10	U	10	U	10	U												
4-Methyl-2-pentanone	10	10	U	10	U	10	U	10	U												
2-Hexanone	10	10	U	10	U	10	U	10	U												
Tetrachloroethene	10	10	U	10	U	10	U	10	U												
1,1,2,2-Tetrachloroethane	10	10	U	10	U	10	U	10	U												
Toluene	10	10	U	1	J	10	U	1	J												
Chlorobenzene	10	10	U	10	U	10	U	10	U												
Ethylbenzene	10	10	U	10	U	10	U	10	U												
Styrene	10	10	U	10	U	10	U	10	U												
Xylene (total)	10	10	U	10	U	10	U	10	U												

DUP = Duplicate, TB = Trip Blank

9713520.0909 WHC-SD-EN-TI-200, Rev. 0

BLANK AND SAMPLE DATA SUMMARY

SDG: B08L25	REVIEWER: PS			DATE: 9/10/93				PAGE_1_OF_1_	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
VBLK	Acetone	1	J		ug/L	5	10	B08L25	U

9713520.0910
WHC-SD-EN-TI-200, Rev. 0

DATA QUALIFICATION SUMMARY

SDG: B08L25	REVIEWER: PS	DATE: 9/10/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Acetone	U	B08L25	Lab Blank Contamination

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L30																				
Sample Number		B08L30		B08L32		B08L90		B08L92		B08LB0		B08LB2		B08LC0		B08LC2					
Location		199-K-21		199-K-21		199-K-37		199-K-37		699-78-62		699-78-62		EB-1		EB-1					
Remarks				TB				TB				TB				TB					
Sample Date		06/25/93		06/25/93		06/26/93		06/26/93		06/26/93		06/26/93		06/26/93		06/26/93					
Analysis Date		07/06/93		07/06/93		07/06/93		07/06/93		07/06/93		07/06/93		07/06/93		07/06/93					
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Bromomethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Vinyl Chloride	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Chloroethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Methylene Chloride	10	10	U	4	J	10	U	6	J	10	U	9	J	10	U	3	J				
Acetone	10	10	U	10	U	10	U	10	U	10	U	1	J	10	U	10	U				
Carbon Disulfide	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
1,1-Dichloroethene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
1,1-Dichloroethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
1,2-Dichloroethene (total)	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Chloroform	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
1,2-Dichloroethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
2-Butanone	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
1,1,1-Trichloroethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Carbon Tetrachloride	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Bromodichloromethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
1,2-Dichloropropane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
cis-1,3-Dichloropropene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Trichloroethene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Dibromochloromethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
1,1,2-Trichloroethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Benzene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
trans-1,3-Dichloropropene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Bromoform	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
4-Methyl-2-pentanone	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
2-Hexanone	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Tetrachloroethene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
1,1,2,2-Tetrachloroethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Toluene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Chlorobenzene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Ethylbenzene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Styrene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				
Xylene (total)	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U				

EB = Equipment Blank, TB = Trip Blank

9713520.0942 HC-SD-EN-TI-200, Rev. 0

BLANK AND SAMPLE DATA SUMMARY

SDG: B08L30	REVIEWER: PS			DATE: 9/13/93				PAGE 1 OF 1	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
VBLK	Methylene Chloride	2	J		ug/L	10	20	B08L30,B08L90, B08LB0,B08LC0	U
VBLK	Acetone	1	J		ug/L	5	10	B08LC0	U

9713520.0913

DATA QUALIFICATION SUMMARY

SDG: B08L30	REVIEWER: PS	DATE: 9/13/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Methylene Chloride	U	B08L30, B08L90, B08LB0, B08LC0	Lab Blank Contamination
Acetone	U	B08LC0	Lab Blank Contamination

VOLATILE ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L35																				
Sample Number		B08L35		B08L37																	
Location		199-K-22		199-K-22																	
Remarks		NV		NV, TB																	
Sample Date		06/08/93		06/08/93																	
Analysis Date		06/12/93		06/12/93																	
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U																
Bromomethane	10	10	U	10	U																
Vinyl Chloride	10	10	U	10	U																
Chloroethane	10	10	U	10	U																
Methylene Chloride	10	3	J	4	J																
Acetone	10	10	U	10	U																
Carbon Disulfide	10	10	U	10	U																
1,1-Dichloroethene	10	10	U	10	U																
1,1-Dichloroethane	10	10	U	10	U																
1,2-Dichloroethene (total)	10	10	U	10	U																
Chloroform	10	1	J	10	U																
1,2-Dichloroethane	10	10	U	10	U																
2-Butanone	10	10	U	10	U																
1,1,1-Trichloroethane	10	10	U	10	U																
Carbon Tetrachloride	10	10	U	10	U																
Bromodichloromethane	10	10	U	10	U																
1,2-Dichloropropane	10	10	U	10	U																
cis-1,3-Dichloropropene	10	10	U	10	U																
Trichloroethene	10	10	U	10	U																
Dibromochloromethane	10	10	U	10	U																
1,1,2-Trichloroethane	10	10	U	10	U																
Benzene	10	10	U	10	U																
trans-1,3-Dichloropropene	10	10	U	10	U																
Bromoform	10	10	U	10	U																
4-Methyl-2-pentanone	10	10	U	10	U																
2-Hexanone	10	10	U	10	U																
Tetrachloroethene	10	10	U	10	U																
1,1,2,2-Tetrachloroethane	10	10	U	10	U																
Toluene	10	10	U	10	U																
Chlorobenzene	10	10	U	10	U																
Ethylbenzene	10	10	U	10	U																
Styrene	10	10	U	10	U																
Xylene (total)	10	10	U	10	U																

NV = Not Validated, TB = Trip Blank

9713520.0913 WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																				
Laboratory: Roy F. Weston																				
Case	SDG: B08L40																			
Sample Number		B08L40		B08L42		B08LC5		B08LC7												
Location		199-K-23		199-K-23		EB-2		EB-2												
Remarks				TB				TB												
Sample Date		07/06/93		07/06/93		07/06/93		07/06/93												
Analysis Date		07/12/93		07/12/93		07/12/93		07/12/93												
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U	10	U	10	U												
Bromomethane	10	10	U	10	U	10	U	10	U												
Vinyl Chloride	10	10	U	10	U	10	U	10	U												
Chloroethane	10	10	U	10	U	10	U	10	U												
Methylene Chloride	10	10	U	2	J	10	U	2	J												
Acetone	10	10	U	3	J	10	U	10	U												
Carbon Disulfide	10	10	U	10	U	10	U	10	U												
1,1-Dichloroethene	10	10	U	10	U	10	U	10	U												
1,1-Dichloroethane	10	10	U	10	U	10	U	10	U												
1,2-Dichloroethene (total)	10	10	U	10	U	10	U	10	U												
Chloroform	10	10	U	10	U	10	U	10	U												
1,2-Dichloroethane	10	10	U	10	U	10	U	10	U												
2-Butanone	10	10	U	10	U	10	U	10	U												
1,1,1-Trichloroethane	10	10	U	10	U	10	U	10	U												
Carbon Tetrachloride	10	10	U	10	U	10	U	10	U												
Bromodichloromethane	10	10	U	10	U	10	U	10	U												
1,2-Dichloropropane	10	10	U	10	U	10	U	10	U												
cis-1,3-Dichloropropene	10	10	U	10	U	10	U	10	U												
Trichloroethene	10	10	U	10	U	10	U	10	U												
Dibromochloromethane	10	10	U	10	U	10	U	10	U												
1,1,2-Trichloroethane	10	10	U	10	U	10	U	10	U												
Benzene	10	10	U	10	U	10	U	10	U												
trans-1,3-Dichloropropene	10	10	U	10	U	10	U	10	U												
Bromoform	10	10	U	10	U	10	U	10	U												
4-Methyl-2-pentanone	10	10	U	10	U	10	U	10	U												
2-Hexanone	10	10	U	10	U	10	U	10	U												
Tetrachloroethene	10	10	U	10	U	10	U	10	U												
1,1,2,2-Tetrachloroethane	10	10	U	10	U	10	U	10	U												
Toluene	10	10	U	10	U	10	U	10	U												
Chlorobenzene	10	10	U	10	U	10	U	10	U												
Ethylbenzene	10	10	U	10	U	10	U	10	U												
Styrene	10	10	U	10	U	10	U	10	U												
Xylene (total)	10	10	U	10	U	10	U	10	U												

EB = Equipment Blank, TB = Trip Blank

9713520.0976 WHC-SD-EN-TI-200, Rev. 0

BLANK AND SAMPLE DATA SUMMARY

SDG: B08L40	REVIEWER: CH			DATE: 9/20/93				PAGE 1 OF 1	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
B08LC7 (TB)	Methylene chloride	2	J		ug/L	10	20	B08LC5	U

DATA QUALIFICATION SUMMARY

SDG: B08L40	REVIEWER: CH	DATE: 9/20/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Methylene chloride	U	B08LC5	Trip blank contamination

VOLATILE ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L50																				
Sample Number		B08L50		B08L52																	
Location		199-K-30		199-K-30																	
Remarks		NV		NV, TB																	
Sample Date		06/03/93		06/03/93																	
Analysis Date		06/11/93		06/11/93																	
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U																
Bromomethane	10	10	U	10	U																
Vinyl Chloride	10	10	U	10	U																
Chloroethane	10	10	U	10	U																
Methylene Chloride	10	10	U	1	J																
Acetone	10	10	U	3	J																
Carbon Disulfide	10	10	U	10	U																
1,1-Dichloroethene	10	10	U	10	U																
1,1-Dichloroethane	10	10	U	10	U																
1,2-Dichloroethene (total)	10	10	U	10	U																
Chloroform	10	9	J	10	U																
1,2-Dichloroethane	10	10	U	10	U																
2-Butanone	10	10	U	10	U																
1,1,1-Trichloroethane	10	10	U	10	U																
Carbon Tetrachloride	10	10	U	10	U																
Bromodichloromethane	10	10	U	10	U																
1,2-Dichloropropane	10	10	U	10	U																
cis-1,3-Dichloropropene	10	10	U	10	U																
Trichloroethene	10	10	U	10	U																
Dibromochloromethane	10	10	U	10	U																
1,1,2-Trichloroethane	10	10	U	10	U																
Benzene	10	10	U	10	U																
trans-1,3-Dichloropropene	10	10	U	10	U																
Bromoform	10	10	U	10	U																
4-Methyl-2-pentanone	10	10	U	10	U																
2-Hexanone	10	10	U	10	U																
Tetrachloroethene	10	10	U	10	U																
1,1,2,2-Tetrachloroethane	10	10	U	10	U																
Toluene	10	10	U	1	J																
Chlorobenzene	10	10	U	10	U																
Ethylbenzene	10	10	U	10	U																
Styrene	10	10	U	10	U																
Xylene (total)	10	10	U	10	U																

NV = Not Validated, TB = Trip Blank

9713520.0619 WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L55																				
Sample Number		B08L55		B08L57		B08LB5		B08LB7		B08LD5		B08LD7		B08LF9							
Location		199-K-31		199-K-31		699-73-61		699-73-61		699-73-61		699-73-61		MB-2							
Remarks				TB				TB		DUP		DUP, TB									
Sample Date		06/16/93		06/16/93		06/17/93		06/17/93		06/17/93		06/17/93		06/17/93							
Analysis Date		06/25/93		06/25/93		06/25/93		06/25/93		06/25/93		06/25/93		06/25/93							
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Bromomethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Vinyl Chloride	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Chloroethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Methylene Chloride	10	10	U	2	J	10	U	2	J	10	U	3	J	2	J						
Acetone	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Carbon Disulfide	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
1,1-Dichloroethene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
1,1-Dichloroethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
1,2-Dichloroethene (total)	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Chloroform	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
1,2-Dichloroethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
2-Butanone	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
1,1,1-Trichloroethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Carbon Tetrachloride	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Bromodichloromethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
1,2-Dichloropropane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
cis-1,3-Dichloropropene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Trichloroethene	10	5	J	10	U	10	U	10	U	10	U	10	U	10	U						
Dibromochloromethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
1,1,2-Trichloroethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Benzene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
trans-1,3-Dichloropropene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Bromoform	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
4-Methyl-2-pentanone	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
2-Hexanone	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Tetrachloroethene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
1,1,2,2-Tetrachloroethane	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Toluene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Chlorobenzene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Ethylbenzene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Styrene	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						
Xylene (total)	10	10	U	10	U	10	U	10	U	10	U	10	U	10	U						

DUP = Duplicate, MB = Misc. Blank, TB = Trip Blank

9713520.0920

WHC-SD-EN-TI-200, Rev. 0

BLANK AND SAMPLE DATA SUMMARY

SDG: B08L55	REVIEWER: KG			DATE: 9/11/93				PAGE 1 OF 1	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
VBLK	Acetone	2	J		ug/L	10	20	B08LD5	U

DATA QUALIFICATION SUMMARY

SDG: B08L55	REVIEWER: KG	DATE: 9/11/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Acetone	U	B08LD5	Lab Blank Contamination

VOLATILE ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L60																				
Sample Number		B08L60		B08L62		B08LF8															
Location		199-K-32A		199-K-32A		MB-1															
Remarks				TB																	
Sample Date		06/14/93		06/14/93		06/14/93															
Analysis Date		06/24/93		06/25/93		06/25/93															
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U	10	U														
Bromomethane	10	10	U	10	U	10	U														
Vinyl Chloride	10	10	U	10	U	10	U														
Chloroethane	10	10	U	10	U	10	U														
Methylene Chloride	10	10	U	2	J	2	J														
Acetone	10	10	U	10	U	10	U														
Carbon Disulfide	10	10	U	10	U	10	U														
1,1-Dichloroethene	10	10	U	10	U	10	U														
1,1-Dichloroethane	10	10	U	10	U	10	U														
1,2-Dichloroethene (total)	10	10	U	10	U	10	U														
Chloroform	10	17		10	U	10	U														
1,2-Dichloroethane	10	10	U	10	U	10	U														
2-Butanone	10	10	U	10	U	10	U														
1,1,1-Trichloroethane	10	10	U	10	U	10	U														
Carbon Tetrachloride	10	10	U	10	U	10	U														
Bromodichloromethane	10	10	U	10	U	10	U														
1,2-Dichloropropane	10	10	U	10	U	10	U														
cis-1,3-Dichloropropene	10	10	U	10	U	10	U														
Trichloroethene	10	10	U	10	U	10	U														
Dibromochloromethane	10	10	U	10	U	10	U														
1,1,2-Trichloroethane	10	10	U	10	U	10	U														
Benzene	10	10	U	10	U	10	U														
trans-1,3-Dichloropropene	10	10	U	10	U	10	U														
Bromoform	10	10	U	10	U	10	U														
4-Methyl-2-pentanone	10	10	U	10	U	10	U														
2-Hexanone	10	10	U	10	U	10	U														
Tetrachloroethene	10	10	U	10	U	10	U														
1,1,2,2-Tetrachloroethane	10	10	U	10	U	10	U														
Toluene	10	1	J	10	U	10	U														
Chlorobenzene	10	10	U	10	U	10	U														
Ethylbenzene	10	10	U	10	U	10	U														
Styrene	10	10	U	10	U	10	U														
Xylene (total)	10	10	U	10	U	10	U														

MB = Misc. Blank, TB = Trip Blank

9713520.0903
WHC-SD-EN-TI-200, Rev. 0

BLANK AND SAMPLE DATA SUMMARY

SDG: B08L60	REVIEWER: PS			DATE: 9/14/93				PAGE 1 OF 1	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
VBLK	Methylene Chloride	3	J		ug/L	15	30	B08L60	U

9713520.0924
WHC-SD-EN-TI-200, Rev. 0

DATA QUALIFICATION SUMMARY

SDG: B08L60	REVIEWER: PS	DATE: 9/14/93	PAGE_1_OF_1_
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Methylene Chloride	U	B08L60	Lab Blank Contamination

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L65																				
Sample Number		B08L65		B08L67																	
Location		199-K-32B		199-K-32B																	
Remarks		NV		NV, TB																	
Sample Date		07/07/93		07/07/93																	
Analysis Date		07/12/93		07/12/93																	
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U																
Bromomethane	10	10	U	10	U																
Vinyl Chloride	10	10	U	10	U																
Chloroethane	10	10	U	10	U																
Methylene Chloride	10	10	U	2	J																
Acetone	10	4	J	10	U																
Carbon Disulfide	10	10	U	10	U																
1,1-Dichloroethene	10	10	U	10	U																
1,1-Dichloroethane	10	10	U	10	U																
1,2-Dichloroethene (total)	10	10	U	10	U																
Chloroform	10	10	U	10	U																
1,2-Dichloroethane	10	10	U	10	U																
2-Butanone	10	10	U	10	U																
1,1,1-Trichloroethane	10	10	U	10	U																
Carbon Tetrachloride	10	10	U	10	U																
Bromodichloromethane	10	10	U	10	U																
1,2-Dichloropropane	10	10	U	10	U																
cis-1,3-Dichloropropene	10	10	U	10	U																
Trichloroethene	10	10	U	10	U																
Dibromochloromethane	10	10	U	10	U																
1,1,2-Trichloroethane	10	10	U	10	U																
Benzene	10	10	U	10	U																
trans-1,3-Dichloropropene	10	10	U	10	U																
Bromoform	10	10	U	10	U																
4-Methyl-2-pentanone	10	10	U	10	U																
2-Hexanone	10	10	U	10	U																
Tetrachloroethene	10	10	U	10	U																
1,1,2,2-Tetrachloroethane	10	10	U	10	U																
Toluene	10	10	U	10	U																
Chlorobenzene	10	10	U	10	U																
Ethylbenzene	10	10	U	10	U																
Styrene	10	10	U	10	U																
Xylene (total)	10	10	U	10	U																

NV = Not Validated, TB = Trip Blank

9713520.0026
WHC-SD-EN-TI-200, Rev. 0

VOLATILE ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L70																				
Sample Number		B08L70		B08L72																	
Location		199-K-33		199-K-33																	
Remarks		NV		NV, TB																	
Sample Date		06/10/93		06/10/93																	
Analysis Date		06/17/93		06/17/93																	
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U																
Bromomethane	10	10	U	10	U																
Vinyl Chloride	10	10	U	10	U																
Chloroethane	10	10	U	10	U																
Methylene Chloride	10	10	U	3	J																
Acetone	10	10	U	2	J																
Carbon Disulfide	10	10	U	10	U																
1,1-Dichloroethene	10	10	U	10	U																
1,1-Dichloroethane	10	10	U	10	U																
1,2-Dichloroethene (total)	10	10	U	10	U																
Chloroform	10	10	U	10	U																
1,2-Dichloroethane	10	10	U	10	U																
2-Butanone	10	10	U	10	U																
1,1,1-Trichloroethane	10	10	U	10	U																
Carbon Tetrachloride	10	10	U	10	U																
Bromodichloromethane	10	10	U	10	U																
1,2-Dichloropropane	10	10	U	10	U																
cis-1,3-Dichloropropene	10	10	U	10	U																
Trichloroethene	10	15		10	U																
Dibromochloromethane	10	10	U	10	U																
1,1,2-Trichloroethane	10	10	U	10	U																
Benzene	10	10	U	10	U																
trans-1,3-Dichloropropene	10	10	U	10	U																
Bromoform	10	10	U	10	U																
4-Methyl-2-pentanone	10	10	U	10	U																
2-Hexanone	10	10	U	10	U																
Tetrachloroethene	10	10	U	10	U																
1,1,2,2-Tetrachloroethane	10	10	U	10	U																
Toluene	10	10	U	10	U																
Chlorobenzene	10	10	U	10	U																
Ethylbenzene	10	10	U	10	U																
Styrene	10	10	U	10	U																
Xylene (total)	10	10	U	10	U																

NV = Not Validated, TB = Trip Blank

9713520.0037 WHC-SD-EN-TI-200 Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L75																				
Sample Number		B08L75		B08L77																	
Location		199-K-34		199-K-34																	
Remarks		NV		NV, TB																	
Sample Date		06/01/93		06/01/93																	
Analysis Date		06/08/93		06/08/93																	
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U																
Bromomethane	10	10	U	10	U																
Vinyl Chloride	10	10	U	10	U																
Chloroethane	10	10	U	10	U																
Methylene Chloride	10	3	J	5	J																
Acetone	10	10	U	4	J																
Carbon Disulfide	10	10	U	10	U																
1,1-Dichloroethene	10	10	U	10	U																
1,1-Dichloroethane	10	10	U	10	U																
1,2-Dichloroethene (total)	10	10	U	10	U																
Chloroform	10	10	U	10	U																
1,2-Dichloroethane	10	10	U	10	U																
2-Butanone	10	10	U	10	U																
1,1,1-Trichloroethane	10	10	U	10	U																
Carbon Tetrachloride	10	10	U	10	U																
Bromodichloromethane	10	10	U	10	U																
1,2-Dichloropropane	10	10	U	10	U																
cis-1,3-Dichloropropene	10	10	U	10	U																
Trichloroethene	10	3	J	10	U																
Dibromochloromethane	10	10	U	10	U																
1,1,2-Trichloroethane	10	10	U	10	U																
Benzene	10	10	U	10	U																
trans-1,3-Dichloropropene	10	10	U	10	U																
Bromoform	10	10	U	10	U																
4-Methyl-2-pentanone	10	10	U	10	U																
2-Hexanone	10	10	U	10	U																
Tetrachloroethene	10	10	U	10	U																
1,1,2,2-Tetrachloroethane	10	10	U	10	U																
Toluene	10	2	J	10	U																
Chlorobenzene	10	10	U	10	U																
Ethylbenzene	10	10	U	10	U																
Styrene	10	10	U	10	U																
Xylene (total)	10	10	U	10	U																

NV = Not Validated, TB = Trip Blank

9713520.0930 WHC-SD-EN-TI-200, Rev. 0

VOLATILE ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																						
Laboratory: Roy F. Weston																						
Case	SDG: B08L80																					
Sample Number		B08L80		B08L82		B08L85		B08L88														
Location		199-K-35		199-K-35		199-K-36		199-K-36														
Remarks		NV		NV, TB		NV		NV, TB														
Sample Date		06/02/93		06/02/93		06/02/93		06/02/93														
Analysis Date		06/08/93		06/08/93		06/08/93		06/08/93														
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U	10	U	10	U												
Bromomethane	10	10	U	10	U	10	U	10	U												
Vinyl Chloride	10	10	U	10	U	10	U	10	U												
Chloroethane	10	10	U	10	U	10	U	10	U												
Methylene Chloride	10	1	J	10	U	10	U	2	J												
Acetone	10	10	U	2	J	10	U	10	U												
Carbon Disulfide	10	10	U	10	U	10	U	10	U												
1,1-Dichloroethene	10	10	U	10	U	10	U	10	U												
1,1-Dichloroethane	10	10	U	10	U	10	U	10	U												
1,2-Dichloroethene (total)	10	10	U	10	U	10	U	10	U												
Chloroform	10	10	U	10	U	4	J	10	U												
1,2-Dichloroethane	10	10	U	10	U	10	U	10	U												
2-Butanone	10	10	U	10	U	10	U	10	U												
1,1,1-Trichloroethane	10	10	U	10	U	10	U	10	U												
Carbon Tetrachloride	10	10	U	10	U	10	U	10	U												
Vinyl Acetate	10	10	U	10	U	10	U	10	U												
Bromodichloromethane	10	10	U	10	U	10	U	10	U												
1,2-Dichloropropane	10	10	U	10	U	10	U	10	U												
cis-1,3-Dichloropropene	10	10	U	10	U	10	U	10	U												
Trichloroethene	10	10		10	U	10	U	10	U												
Dibromochloromethane	10	10	U	10	U	10	U	10	U												
1,1,2-Trichloroethane	10	10	U	10	U	10	U	10	U												
Benzene	10	10	U	10	U	10	U	10	U												
trans-1,3-Dichloropropene	10	10	U	10	U	10	U	10	U												
Bromoform	10	10	U	10	U	10	U	10	U												
4-Methyl-2-pentanone	10	10	U	10	U	10	U	10	U												
2-Hexanone	10	10	U	10	U	10	U	10	U												
Tetrachloroethene	10	10	U	10	U	10	U	10	U												
1,1,2,2-Tetrachloroethane	10	10	U	10	U	10	U	10	U												
Toluene	10	10	U	10	U	10	U	10	U												
Chlorobenzene	10	10	U	10	U	10	U	10	U												
Ethylbenzene	10	10	U	10	U	10	U	10	U												
Styrene	10	10	U	10	U	10	U	10	U												
Xylene (total)	10	10	U	10	U	10	U	10	U												

VOLATILE ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L95																				
Sample Number		B08L95		B08L97																	
Location		699-70-68		699-70-68																	
Remarks		NV		NV, TB																	
Sample Date		06/18/93		06/18/93																	
Analysis Date		06/26/93		06/26/93																	
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U																
Bromomethane	10	10	U	10	U																
Vinyl Chloride	10	10	U	10	U																
Chloroethane	10	10	U	10	U																
Methylene Chloride	10	5	J	6	J																
Acetone	10	10	U	10	U																
Carbon Disulfide	10	10	U	10	U																
1,1-Dichloroethene	10	10	U	10	U																
1,1-Dichloroethane	10	10	U	10	U																
1,2-Dichloroethene (total)	10	10	U	10	U																
Chloroform	10	10	U	10	U																
1,2-Dichloroethane	10	10	U	10	U																
2-Butanone	10	10	U	10	U																
1,1,1-Trichloroethane	10	10	U	10	U																
Carbon Tetrachloride	10	10	U	10	U																
Bromodichloromethane	10	10	U	10	U																
1,2-Dichloropropane	10	10	U	10	U																
cis-1,3-Dichloropropene	10	10	U	10	U																
Trichloroethene	10	1	J	10	U																
Dibromochloromethane	10	10	U	10	U																
1,1,2-Trichloroethane	10	10	U	10	U																
Benzene	10	10	U	10	U																
trans-1,3-Dichloropropene	10	10	U	10	U																
Bromoform	10	10	U	10	U																
4-Methyl-2-pentanone	10	10	U	10	U																
2-Hexanone	10	10	U	10	U																
Tetrachloroethene	10	10	U	10	U																
1,1,2,2-Tetrachloroethane	10	10	U	10	U																
Toluene	10	10	U	10	U																
Chlorobenzene	10	10	U	10	U																
Ethylbenzene	10	10	U	10	U																
Styrene	10	10	U	10	U																
Xylene (total)	10	10	U	10	U																

NV = Not Validated, TB = Trip Blank

9713520.0030
WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD
Laboratory: TMA
Case SDG: B08LF0

Sample Number		B08LF0		B08LF2																	
Location		199-K-20		199-K-20																	
Remarks		Split		Split, TB																	
Sample Date		06/09/93		06/09/93																	
Analysis Date		06/21/93		06/21/93																	
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U																
Bromomethane	10	10	U	10	U																
Vinyl Chloride	10	10	U	10	U																
Chloroethane	10	10	U	10	U																
Methylene Chloride	10	10	U	5	J																
Acetone	10	10	U	10	U																
Carbon Disulfide	10	10	U	10	U																
1,1-Dichloroethene	10	10	U	10	U																
1,1-Dichloroethane	10	10	U	10	U																
1,2-Dichloroethene (total)	10	10	U	10	U																
Chloroform	10	2	J	10	U																
1,2-Dichloroethane	10	10	U	10	U																
2-Butanone	10	10	U	10	U																
1,1,1-Trichloroethane	10	10	U	10	U																
Carbon Tetrachloride	10	10	U	10	U																
Bromodichloromethane	10	10	U	10	U																
1,2-Dichloropropane	10	10	U	10	U																
cis-1,3-Dichloropropene	10	10	U	10	U																
Trichloroethene	10	10	U	10	U																
Dibromochloromethane	10	10	U	10	U																
1,1,2-Trichloroethane	10	10	U	10	U																
Benzene	10	10	U	10	U																
trans-1,3-Dichloropropene	10	10	U	10	U																
Bromoform	10	10	U	10	U																
4-Methyl-2-pentanone	10	10	U	10	U																
2-Hexanone	10	10	U	10	U																
Tetrachloroethene	10	10	U	10	U																
1,1,2,2-Tetrachloroethane	10	10	U	10	U																
Toluene	10	10	U	1	J																
Chlorobenzene	10	10	U	10	U																
Ethylbenzene	10	10	U	10	U																
Styrene	10	10	U	10	U																
Xylene (total)	10	10	U	10	U																

TB = Trip Blank

9713520.0034
WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: TMA																					
Case	SDG: B08LF4																				
Sample Number		B08LF4		B08LF6																	
Location		699-73-61		699-73-61																	
Remarks		Split		Split, TB																	
Sample Date		06/17/93		06/17/93																	
Analysis Date		06/24/93		06/24/93																	
Volatile Organic Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U																
Bromomethane	10	10	U	10	U																
Vinyl Chloride	10	10	U	10	U																
Chloroethane	10	10	U	10	U																
Methylene Chloride	10	10	U	2	J																
Acetone	10	10	U	10	U																
Carbon Disulfide	10	10	U	10	U																
1,1-Dichloroethene	10	10	U	10	U																
1,1-Dichloroethane	10	10	U	10	U																
1,2-Dichloroethene (total)	10	10	U	10	U																
Chloroform	10	10	U	10	U																
1,2-Dichloroethane	10	10	U	10	U																
2-Butanone	10	10	U	10	U																
1,1,1-Trichloroethane	10	10	U	10	U																
Carbon Tetrachloride	10	10	U	10	U																
Bromodichloromethane	10	10	U	10	U																
1,2-Dichloropropane	10	10	U	10	U																
cis-1,3-Dichloropropene	10	10	U	10	U																
Trichloroethene	10	10	U	10	U																
Dibromochloromethane	10	10	U	10	U																
1,1,2-Trichloroethane	10	10	U	10	U																
Benzene	10	10	U	10	U																
trans-1,3-Dichloropropene	10	10	U	10	U																
Bromoform	10	10	U	10	U																
4-Methyl-2-pentanone	10	10	U	10	U																
2-Hexanone	10	10	U	10	U																
Tetrachloroethene	10	10	U	10	U																
1,1,2,2-Tetrachloroethane	10	10	U	10	U																
Toluene	10	10	U	10	U																
Chlorobenzene	10	10	U	10	U																
Ethylbenzene	10	10	U	10	U																
Styrene	10	10	U	10	U																
Xylene (total)	10	10	U	10	U																

TB = Trip Blank

9713520.0032 SD-EN-TI-200, Rev. 0

WELL AND SAMPLE INFORMATION					SAMPLE LOCATION INFORMATION
SAMPLE LOCATION	SAMPLE NUMBER	MATRIX	DATE SAMPLED	NV/V	SEMI-VOLATILES
199-K-11	B08L05	W	06/04/93	NV	3-6, 3-7
199-K-13	B08L10	W	07/08/93	NV	3-8, 3-9
199-K-18	B08L15	W	06/07/93	NV	3-10, 3-11
199-K-19	B08L20	W	06/15/93	NV	3-12, 3-13
199-K-20	B08L25 B08LD0 B08LF0	W W W	06/09/93 06/09/93 06/09/93	V V V	3-14, 3-15 3-14, 3-15 3-46, 3-47
199-K-21	B08L30	W	06/25/93	V	3-18, 3-19
199-K-22	B08L35	W	06/08/93	NV	3-22, 3-23
199-K-23	B08L40	W	07/07/93	V	3-24, 3-25
199-K-27	B08L45	W	06/04/93	NV	3-6, 3-7
199-K-30	B08L50	W	06/03/93	NV	3-28, 3-29
199-K-31	B08L55	W	06/16/93	V	3-30, 3-31
199-K-32A	B08L60	W	06/14/93	V	3-34, 3-35
199-K-32B	B08L65	W	07/07/93	NV	3-36, 3-37
199-K-33	B08L70	W	06/10/93	NV	3-38, 3-39
199-K-34	B08L75	W	06/01/93	NV	3-40, 3-41
199-K-35	B08L80	W	06/02/93	NV	3-42, 3-43
199-K-36	B08L85	W	06/02/93	NV	3-42, 3-43
199-K-37	B08L90	W	06/26/93	V	3-18, 3-19
699-70-68	B08L95	W	06/18/93	NV	3-44, 3-45
699-78-62	B08LB0	W	06/26/93	V	3-18, 3-19
699-73-61	B08LB5 B08LD5 B08LF4	W W W	06/17/93 06/17/93 06/17/93	V V V	3-30, 3-31 3-30, 3-31 3-48, 3-49
EB-1	B08LC0	W	06/26/93	V	3-18, 3-19
EB-2	B08LC5	W	07/06/93	V	3-24, 3-25

3.0 SEMIVOLATILE DATA VALIDATION

3.1 DATA PACKAGE COMPLETENESS

The following data packages (SDG Nos.) were submitted for validation and found to be complete:

B08L25	B08L40	B08L60	B08LF4
B08L30	B08L55	B08LF0	

3.2 HOLDING TIMES

Analytical holding times were assessed to ascertain whether the holding time requirements for semivolatile analyses were met by the laboratory. Westinghouse-Hanford protocols require that samples be extracted within seven days of collection and be analyzed within 40 days of extraction (WHC 1992a).

Holding time requirements were met for all samples.

3.3 INSTRUMENT CALIBRATION AND TUNING

3.3.1 GC/MS Tuning/Instrument Performance Check

Tuning is performed to ensure that mass resolution, and to some degree, sensitivity, of the GC/MS instrument has been established. When analyzing for semivolatile organic compounds, the GC/MS is tuned using DFTPP. The GC/MS must be tuned prior to the analysis of either standards or samples, and tuning must meet the criteria established by the analytical protocol. The specific criteria for acceptable GC/MS tuning using DFTPP are outlined in Westinghouse-Hanford procedures (WHC 1992a) and in CLP protocols (EPA 1988b and 1991).

As part of data validation, the original tuning data were checked for transcription and calculation errors to verify that tuning and performance criteria were met.

All tuning and performance criteria were met.

3.3.2 Initial Calibration

The GC/MS instrument is calibrated to ensure that it is capable of producing acceptable and reliable analytical data over a range of concentrations. The initial and continuing

calibrations are to be performed according to CLP protocols. An initial multipoint calibration is performed prior to sample analysis to establish the linearity range of the GC/MS instrument. Continuing calibration checks are performed to verify that instrument performance is stable and reproducible on a day-to-day basis.

Instrument response is established by the initial calibration when the RRFs for all target compounds are greater than or equal to 0.05 units. Linearity is established when the RSDs of the RRFs are less than or equal to 30 percent.

All initial calibration results were acceptable.

3.3.3 Continuing Calibration

The criteria for accepting the continuing calibration require that a standard be analyzed at least once per 12 hour period and that the RRFs of all target compounds be greater than or equal to 0.05 units. In addition, the percent difference of these RRFs must be less than or equal to 25 percent of the average RRFs calculated for the associated initial calibration.

All continuing calibration results were acceptable.

3.4 BLANKS

Method blank and field blank analyses are performed to determine the extent of laboratory or field contamination of samples. No contaminants should be present in the blanks. Analytical results for analytes present in any sample at less than 5 times the concentration of that analyte found in associated blanks should be qualified as non-detects; in the case of certain common laboratory contaminants, results less than 10 times blank concentrations should be qualified as non-detects.

Due to the presence of laboratory blank contamination, the following samples were flagged "U" for di-n-butylphthalate and bis(2-ethylhexyl)phthalate:

- Sample numbers B08L25 and B08LD0 in SDG No. B08L25.
- Sample numbers B08L30, B08L90, B08LB0 and B08LC0 in SDG No. B08L30.
- Sample numbers B08L40 and B08LC5 in SDG No. B08L40.
- Sample numbers B08L55, B08LB5 and B08LD5 in SDG No. B08L55.

All other blank results were acceptable.

3.5 ACCURACY

Accuracy was assessed by evaluating the recoveries of stable isotopically labeled surrogate compounds added to all samples and blanks, and by the analysis of a representative sample which was spiked with a variety of organic compounds.

3.5.1 Matrix Spike Recovery

Matrix spike compounds are added to a sample which is representative of the sample delivery group. Matrix spike analyses are performed in duplicate using the six compounds specified by CLP protocols. All recoveries for the compounds should be within the established QC limits (EPA 1988b). The matrix spike analyses estimate how much the analyses for the target compounds are interfered with, either positively or negatively, by the sample matrix. Because the matrix spike is performed using only one of the samples extracted within the SDG, these data alone cannot be used to evaluate the precision and accuracy of individual samples.

All matrix spike/matrix spike duplicate recovery results were acceptable.

3.5.2 Surrogate Recovery

Surrogate compound recoveries are calculated using analytical results from six stable, isotopically labeled surrogate compounds added to the sample prior to sample preparation and analysis. Matrix-specific surrogate compound recovery control windows have been established by the EPA CLP program. When recoveries for any two surrogate compounds are out of the control window, all positively identified target compound concentrations in samples associated with the unacceptable surrogate recoveries are qualified as estimates (J) and undetected compounds are qualified estimated below the detection limit (UJ).

Surrogate recovery results were acceptable for all samples.

3.6 PRECISION

The precision is expressed by the RPD between the recoveries of the matrix spike and the matrix spike duplicate analyses performed on a sample, and through a comparison of the results for field duplicate samples. Acceptable RPD control windows for matrix spike/matrix spike duplicate analyses have been established by the EPA CLP program.

Field precision is measured by analyzing duplicate samples taken in the field. No standards have been established for qualifying data based on RPD for duplicate field samples by CLP

protocols. Westinghouse-Hanford procedures establish the following criteria for duplicate field sample analyses for organic compounds, based on criteria established for inorganic analyses for laboratory duplicates:

1. For compounds whose concentrations are greater than 5 times CRQL, RPDs, must be ±20 percent for aqueous samples and ±35 percent for soil samples.

2. When one or more compounds are present at concentrations less than 5 times CRQL, the concentration difference must be ± CRQL for aqueous samples and ± 2xCRQL for soil samples.

All matrix spike/matrix spike duplicate RPD results were acceptable for all samples.

3.7 SYSTEM PERFORMANCE

Internal standard performance was assessed to determine whether abrupt changes in instrument response and sensitivity occurred that may have affected the reliability of the analytical data. The response (area or height) of the internal standards must not vary by more than -50 percent or +100 percent from the response of the calibration standard that was used to calculate the upper and lower bounds. The upper and lower bounds define the range for acceptable internal standard response (area/height) for the sample analyses. In addition, retention times for the internal standard must not vary more than ±30 seconds from that of the associated calibration standard.

All internal standard results were acceptable.

3.8 COMPOUND IDENTIFICATION AND QUANTITATION

The identities of detected compounds were confirmed to investigate the possibility of false positives. The confirmation of compound identification during the QA review focuses on false positives because only mass spectra for positive identifications are submitted. However, target compounds that are reported as undetected are also evaluated to investigate the possibility of false negatives. Confirmation of possible false negatives is addressed by reviewing other factors relating to analytical sensitivity (e.g., detection limits, linearity, analytical recovery). Compound retention times and mass spectra must match those for the standard within set to tolerance limits (EPA 1988b).

3.8.1 Reported Results and Quantitation Limits

Compound quantitations and reported detection limits were recalculated and verified to ensure that they are accurate and

are consistent with the internal standards and relative retention times specified by the CLP scope of work.

At concentrations below the CRQL, instrument precision becomes more variable as the IDL is approached. Therefore, the concentrations of any compound detected below the CRQL are qualified as estimates.

All compound identifications and quantitations have been verified as correct in the validated data.

3.8.2 Tentatively Identified Compounds

Several TICs were identified in the blanks and samples which were flagged "U" according to Westinghouse-Hanford protocols; if the sample result was ±0.06 RRT from that of the blank and if the sample result was less than 5 times the highest blank concentration.

3.9 OVERALL ASSESSMENT AND SUMMARY

A thorough review of ongoing data acquisition and instrument performance criteria was made to assess overall GC/MS instrument performance. No changes in instrument performance were noted that would result in the degradation of data quality. No indications of unacceptable instrument performance (i.e., shifts in baseline stability, retention time shifts, extraneous peaks, sensitivity) were found during the quality assurance review.

In general, the semivolatile data presented in this report met the protocol-specified QA/QC requirements. Minor laboratory blank contamination was detected in eleven samples. All validated data are considered valid and usable within the standard error associated with the method.

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L05																				
Sample Number		B08L05		B08L45																	
Location		199-K-11		199-K-27																	
Remarks		NV		NV																	
Sample Date		06/04/93		06/04/93																	
Extraction Date		06/10/93		06/10/93																	
Analysis Date		06/18/93		06/18/93																	
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U	10	U																
bis(2-Chloroethyl)ether	10	10	U	10	U																
2-Chlorophenol	10	10	U	10	U																
1,3-Dichlorobenzene	10	10	U	10	U																
1,4-Dichlorobenzene	10	10	U	10	U																
1,2-Dichlorobenzene	10	10	U	10	U																
2-Methylphenol	10	10	U	10	U																
2,2'-oxybis(1-Chloropropane)	10	10	U	10	U																
4-Methylphenol	10	10	U	10	U																
N-Nitroso-di-n-propylamine	10	10	U	10	U																
Hexachloroethane	10	10	U	10	U																
Nitrobenzene	10	10	U	10	U																
Isophorone	10	10	U	10	U																
2-Nitrophenol	10	10	U	10	U																
2,4-Dimethylphenol	10	10	U	10	U																
bis(2-Chloroethoxy)methane	10	10	U	10	U																
2,4-Dichlorophenol	10	10	U	10	U																
1,2,4-Trichlorobenzene	10	10	U	10	U																
Naphthalene	10	10	U	10	U																
4-Chloroaniline	10	10	U	10	U																
Hexachlorobutadiene	10	10	U	10	U																
4-Chloro-3-methylphenol	10	10	U	10	U																
2-Methylnaphthalene	10	10	U	10	U																
Hexachlorocyclopentadiene	10	10	U	10	U																
2,4,6-Trichlorophenol	10	10	U	10	U																
2,4,5-Trichlorophenol	50	25	U	25	U																
2-Chloronaphthalene	10	10	U	10	U																
2-Nitroaniline	50	25	U	25	U																
Dimethylphthalate	10	10	U	10	U																
Acenaphthylene	10	10	U	10	U																
2,6-Dinitrotoluene	10	10	U	10	U																
3-Nitroaniline	50	25	U	25	U																
Acenaphthene	10	10	U	10	U																

NV = Not Validated

9713520.0939
WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L05																				
Sample Number		B08L05		B08L45																	
Location		199-K-11		199-K-27																	
Remarks		NV		NV																	
Sample Date		06/04/93		06/04/93																	
Extraction Date		06/10/93		06/10/93																	
Analysis Date		06/18/93		06/18/93																	
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U	25	U																
4-Nitrophenol	50	25	U	25	U																
Dibenzofuran	10	10	U	10	U																
2,4-Dinitrotoluene	10	10	U	10	U																
Diethylphthalate	10	10	U	10	U																
4-Chlorophenyl-phenylether	10	10	U	10	U																
Fluorene	10	10	U	10	U																
4-Nitroaniline	50	25	U	25	U																
4,6-Dinitro-2-methylphenol	50	25	U	25	U																
N-Nitrosodiphenylamine	10	10	U	10	U																
4-Bromophenyl-phenylether	10	10	U	10	U																
Hexachlorobenzene	10	10	U	10	U																
Pentachlorophenol	50	25	U	25	U																
Phenanthrene	10	10	U	10	U																
Anthracene	10	10	U	10	U																
Carbazole	10	10	U	10	U																
Di-n-butylphthalate	10	1	J	1	J																
Fluoranthene	10	10	U	10	U																
Pyrene	10	10	U	10	U																
Butylbenzylphthalate	10	10	U	10	U																
3,3'-Dichlorobenzidine	10	10	U	10	U																
Benzo(a)anthracene	10	10	U	10	U																
Chrysene	10	10	U	10	U																
bis(2-Ethylhexyl)phthalate	10	0.9	J	0.8	J																
Di-n-octylphthalate	10	10	U	10	U																
Benzo(b)fluoranthene	10	10	U	10	U																
Benzo(k)fluoranthene	10	10	U	10	U																
Benzo(a)pyrene	10	10	U	10	U																
Indeno(1,2,3-cd)pyrene	10	10	U	10	U																
Dibenz(a,h)anthracene	10	10	U	10	U																
Benzo(g,h,i)perylene	10	10	U	10	U																

NV = Not Validated

9713520.0940 WHC-SD-EN-TI-200, Rev. 0

SEMIVOLATILE ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L10																				
Sample Number		B08L10																			
Location		199-K-13																			
Remarks		NV																			
Sample Date		07/08/93																			
Extraction Date		07/13/93																			
Analysis Date		07/28/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U																		
bis(2-Chloroethyl)ether	10	10	U																		
2-Chlorophenol	10	10	U																		
1,3-Dichlorobenzene	10	10	U																		
1,4-Dichlorobenzene	10	10	U																		
1,2-Dichlorobenzene	10	10	U																		
2-Methylphenol	10	10	U																		
2,2'-oxybis(1-Chloropropane)	10	10	U																		
4-Methylphenol	10	10	U																		
N-Nitroso-di-n-propylamine	10	10	U																		
Hexachloroethane	10	10	U																		
Nitrobenzene	10	10	U																		
Isophorone	10	10	U																		
2-Nitrophenol	10	10	U																		
2,4-Dimethylphenol	10	10	U																		
bis(2-Chloroethoxy)methane	10	10	U																		
2,4-Dichlorophenol	10	10	U																		
1,2,4-Trichlorobenzene	10	10	U																		
Naphthalene	10	10	U																		
4-Chloroaniline	10	10	U																		
Hexachlorobutadiene	10	10	U																		
4-Chloro-3-methylphenol	10	10	U																		
2-Methylnaphthalene	10	10	U																		
Hexachlorocyclopentadiene	10	10	U																		
2,4,6-Trichlorophenol	10	10	U																		
2,4,5-Trichlorophenol	50	25	U																		
2-Chloronaphthalene	10	10	U																		
2-Nitroaniline	50	25	U																		
Dimethylphthalate	10	10	U																		
Acenaphthylene	10	10	U																		
2,6-Dinitrotoluene	10	10	U																		
3-Nitroaniline	50	25	U																		
Acenaphthene	10	10	U																		

NV = Not Validated

9713520.0911 WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L10																				
Sample Number		B08L10																			
Location		199-K-13																			
Remarks		NV																			
Sample Date		07/08/93																			
Extraction Date		07/13/93																			
Analysis Date		07/28/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U																		
4-Nitrophenol	50	25	U																		
Dibenzofuran	10	10	U																		
2,4-Dinitrotoluene	10	10	U																		
Diethylphthalate	10	10	U																		
4-Chlorophenyl-phenylether	10	10	U																		
Fluorene	10	10	U																		
4-Nitroaniline	50	25	U																		
4,6-Dinitro-2-methylphenol	50	25	U																		
N-Nitrosodiphenylamine	10	10	U																		
4-Bromophenyl-phenylether	10	10	U																		
Hexachlorobenzene	10	10	U																		
Pentachlorophenol	50	25	U																		
Phenanthrene	10	10	U																		
Anthracene	10	10	U																		
Carbazole	10	10	U																		
Di-n-butylphthalate	10	10	U																		
Fluoranthene	10	10	U																		
Pyrene	10	10	U																		
Butylbenzylphthalate	10	10	U																		
3,3'-Dichlorobenzidine	10	10	U																		
Benzo(a)anthracene	10	10	U																		
Chrysene	10	10	U																		
bis(2-Ethylhexyl)phthalate	10	10	U																		
Di-n-octylphthalate	10	10	U																		
Benzo(b)fluoranthene	10	10	U																		
Benzo(k)fluoranthene	10	10	U																		
Benzo(a)pyrene	10	10	U																		
Indeno(1,2,3-cd)pyrene	10	10	U																		
Dibenz(a,h)anthracene	10	10	U																		
Benzo(g,h,i)perylene	10	10	U																		

NV = Not Validated

9713520.0972 WBG-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L15																				
Sample Number		B08L15																			
Location		199-K-18																			
Remarks		NV																			
Sample Date		06/07/93																			
Extraction Date		06/14/93																			
Analysis Date		06/22/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U																		
bis(2-Chloroethyl)ether	10	10	U																		
2-Chlorophenol	10	10	U																		
1,3-Dichlorobenzene	10	10	U																		
1,4-Dichlorobenzene	10	10	U																		
1,2-Dichlorobenzene	10	10	U																		
2-Methylphenol	10	10	U																		
2,2'-oxybis(1-Chloropropane)	10	10	U																		
4-Methylphenol	10	10	U																		
N-Nitroso-di-n-propylamine	10	10	U																		
Hexachloroethane	10	10	U																		
Nitrobenzene	10	10	U																		
Isophorone	10	10	U																		
2-Nitrophenol	10	10	U																		
2,4-Dimethylphenol	10	10	U																		
bis(2-Chloroethoxy)methane	10	10	U																		
2,4-Dichlorophenol	10	10	U																		
1,2,4-Trichlorobenzene	10	10	U																		
Naphthalene	10	10	U																		
4-Chloroaniline	10	10	U																		
Hexachlorobutadiene	10	10	U																		
4-Chloro-3-methylphenol	10	10	U																		
2-Methylnaphthalene	10	10	U																		
Hexachlorocyclopentadiene	10	10	U																		
2,4,6-Trichlorophenol	10	10	U																		
2,4,5-Trichlorophenol	50	25	U																		
2-Chloronaphthalene	10	10	U																		
2-Nitroaniline	50	25	U																		
Dimethylphthalate	10	10	U																		
Acenaphthylene	10	10	U																		
2,6-Dinitrotoluene	10	10	U																		
3-Nitroaniline	50	25	U																		
Acenaphthene	10	10	U																		

NV = Not Validated

9713520.0943
WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L15																				
Sample Number		B08L15																			
Location		199-K-18																			
Remarks		NV																			
Sample Date		06/07/93																			
Extraction Date		06/14/93																			
Analysis Date		06/22/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U																		
4-Nitrophenol	50	25	U																		
Dibenzofuran	10	10	U																		
2,4-Dinitrotoluene	10	10	U																		
Diethylphthalate	10	0.6	J																		
4-Chlorophenyl-phenylether	10	10	U																		
Fluorene	10	10	U																		
4-Nitroaniline	50	25	U																		
4,6-Dinitro-2-methylphenol	50	25	U																		
N-Nitrosodiphenylamine	10	10	U																		
4-Bromophenyl-phenylether	10	10	U																		
Hexachlorobenzene	10	10	U																		
Pentachlorophenol	50	25	U																		
Phenanthrene	10	10	U																		
Anthracene	10	10	U																		
Carbazole	10	10	U																		
Di-n-butylphthalate	10	10	U																		
Fluoranthene	10	10	U																		
Pyrene	10	10	U																		
Butylbenzylphthalate	10	10	U																		
3,3'-Dichlorobenzidine	10	10	U																		
Benzo(a)anthracene	10	10	U																		
Chrysene	10	10	U																		
bis(2-Ethylhexyl)phthalate	10	0.7	J																		
Di-n-octylphthalate	10	10	U																		
Benzo(b)fluoranthene	10	10	U																		
Benzo(k)fluoranthene	10	10	U																		
Benzo(a)pyrene	10	10	U																		
Indeno(1,2,3-cd)pyrene	10	10	U																		
Dibenz(a,h)anthracene	10	10	U																		
Benzo(g,h,i)perylene	10	10	U																		

NV = Not Validated

9713520.0944
WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L20																				
Sample Number		B08L20																			
Location		199-K-19																			
Remarks		NV																			
Sample Date		06/15/93																			
Extraction Date		06/18/93																			
Analysis Date		07/12/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U																		
bis(2-Chloroethyl)ether	10	10	U																		
2-Chlorophenol	10	10	U																		
1,3-Dichlorobenzene	10	10	U																		
1,4-Dichlorobenzene	10	10	U																		
1,2-Dichlorobenzene	10	10	U																		
2-Methylphenol	10	10	U																		
2,2'-oxybis(1-Chloropropane)	10	10	U																		
4-Methylphenol	10	10	U																		
N-Nitroso-di-n-propylamine	10	10	U																		
Hexachloroethane	10	10	U																		
Nitrobenzene	10	10	U																		
Isophorone	10	10	U																		
2-Nitrophenol	10	10	U																		
2,4-Dimethylphenol	10	10	U																		
bis(2-Chloroethoxy)methane	10	10	U																		
2,4-Dichlorophenol	10	10	U																		
1,2,4-Trichlorobenzene	10	10	U																		
Naphthalene	10	10	U																		
4-Chloroaniline	10	10	U																		
Hexachlorobutadiene	10	10	U																		
4-Chloro-3-methylphenol	10	10	U																		
2-Methylnaphthalene	10	10	U																		
Hexachlorocyclopentadiene	10	10	U																		
2,4,6-Trichlorophenol	10	10	U																		
2,4,5-Trichlorophenol	50	25	U																		
2-Chloronaphthalene	10	10	U																		
2-Nitroaniline	50	25	U																		
Dimethylphthalate	10	10	U																		
Acenaphthylene	10	10	U																		
2,6-Dinitrotoluene	10	10	U																		
3-Nitroaniline	50	25	U																		
Acenaphthene	10	10	U																		

NV = Not Validated

9713520.0943 HC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L20																				
Sample Number		B08L20																			
Location		199-K-19																			
Remarks		NV																			
Sample Date		06/15/93																			
Extraction Date		06/18/93																			
Analysis Date		07/12/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U																		
4-Nitrophenol	50	25	U																		
Dibenzofuran	10	10	U																		
2,4-Dinitrotoluene	10	10	U																		
Diethylphthalate	10	10	U																		
4-Chlorophenyl-phenylether	10	10	U																		
Fluorene	10	10	U																		
4-Nitroaniline	50	25	U																		
4,6-Dinitro-2-methylphenol	50	25	U																		
N-Nitrosodiphenylamine	10	10	U																		
4-Bromophenyl-phenylether	10	10	U																		
Hexachlorobenzene	10	10	U																		
Pentachlorophenol	50	25	U																		
Phenanthrene	10	10	U																		
Anthracene	10	10	U																		
Carbazole	10	10	U																		
Di-n-butylphthalate	10	10	U																		
Fluoranthene	10	10	U																		
Pyrene	10	10	U																		
Butylbenzylphthalate	10	10	U																		
3,3'-Dichlorobenzidine	10	10	U																		
Benzo(a)anthracene	10	10	U																		
Chrysene	10	10	U																		
bis(2-Ethylhexyl)phthalate	10	10	U																		
Di-n-octylphthalate	10	10	U																		
Benzo(b)fluoranthene	10	10	U																		
Benzo(k)fluoranthene	10	10	U																		
Benzo(a)pyrene	10	10	U																		
Indeno(1,2,3-cd)pyrene	10	10	U																		
Dibenz(a,h)anthracene	10	10	U																		
Benzo(g,h,i)perylene	10	10	U																		

NV = Not Validated

9713520.0946
WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L25																				
Sample Number		B08L25		B08LD0																	
Location		199-K-20		199-K-20																	
Remarks				DUP																	
Sample Date		06/09/93		06/09/93																	
Extraction Date		06/14/93		06/14/93																	
Analysis Date		06/22/93		06/21/93																	
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	11	U	10	U																
bis(2-Chloroethyl)ether	10	11	U	10	U																
2-Chlorophenol	10	11	U	10	U																
1,3-Dichlorobenzene	10	11	U	10	U																
1,4-Dichlorobenzene	10	11	U	10	U																
1,2-Dichlorobenzene	10	11	U	10	U																
2-Methylphenol	10	11	U	10	U																
2,2'-oxybis(1-Chloropropane)	10	11	U	10	U																
4-Methylphenol	10	11	U	10	U																
N-Nitroso-di-n-propylamine	10	11	U	10	U																
Hexachloroethane	10	11	U	10	U																
Nitrobenzene	10	11	U	10	U																
Isophorone	10	11	U	10	U																
2-Nitrophenol	10	11	U	10	U																
2,4-Dimethylphenol	10	11	U	10	U																
bis(2-Chloroethoxy)methane	10	11	U	10	U																
2,4-Dichlorophenol	10	11	U	10	U																
1,2,4-Trichlorobenzene	10	11	U	10	U																
Naphthalene	10	11	U	10	U																
4-Chloroaniline	10	11	U	10	U																
Hexachlorobutadiene	10	11	U	10	U																
4-Chloro-3-methylphenol	10	11	U	10	U																
2-Methylnaphthalene	10	11	U	10	U																
Hexachlorocyclopentadiene	10	11	U	10	U																
2,4,6-Trichlorophenol	10	11	U	10	U																
2,4,5-Trichlorophenol	50	28	U	25	U																
2-Chloronaphthalene	10	11	U	10	U																
2-Nitroaniline	50	28	U	25	U																
Dimethylphthalate	10	11	U	10	U																
Acenaphthylene	10	11	U	10	U																
2,6-Dinitrotoluene	10	11	U	10	U																
3-Nitroaniline	50	28	U	25	U																
Acenaphthene	10	11	U	10	U																

DUP = Duplicate

9713520.0947 WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L25																				
Sample Number		B08L25		B08LD0																	
Location		199-K-20		199-K-20																	
Remarks				DUP																	
Sample Date		06/09/93		06/09/93																	
Extraction Date		06/14/93		06/14/93																	
Analysis Date		06/22/93		06/21/93																	
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	28	U	25	U																
4-Nitrophenol	50	28	U	25	U																
Dibenzofuran	10	11	U	10	U																
2,4-Dinitrotoluene	10	11	U	10	U																
Diethylphthalate	10	11	U	10	U																
4-Chlorophenyl-phenylether	10	11	U	10	U																
Fluorene	10	11	U	10	U																
4-Nitroaniline	50	28	U	25	U																
4,6-Dinitro-2-methylphenol	50	28	U	25	U																
N-Nitrosodiphenylamine	10	11	U	10	U																
4-Bromophenyl-phenylether	10	11	U	10	U																
Hexachlorobenzene	10	11	U	10	U																
Pentachlorophenol	50	28	U	25	U																
Phenanthrene	10	11	U	10	U																
Anthracene	10	11	U	10	U																
Carbazole	10	11	U	10	U																
Di-n-butylphthalate	10	11	U	10	U																
Fluoranthene	10	11	U	10	U																
Pyrene	10	11	U	10	U																
Butylbenzylphthalate	10	11	U	10	U																
3,3'-Dichlorobenzidine	10	11	U	10	U																
Benzo(a)anthracene	10	11	U	10	U																
Chrysene	10	11	U	10	U																
bis(2-Ethylhexyl)phthalate	10	11	U	10	U																
Di-n-octylphthalate	10	11	U	10	U																
Benzo(b)fluoranthene	10	11	U	10	U																
Benzo(k)fluoranthene	10	11	U	10	U																
Benzo(a)pyrene	10	11	U	10	U																
Indeno(1,2,3-cd)pyrene	10	11	U	10	U																
Dibenz(a,h)anthracene	10	11	U	10	U																
Benzo(g,h,i)perylene	10	11	U	10	U																

DUP = Duplicate

9713520.0048
WHC-SD-EN-TI-200, Rev. 0

BLANK AND SAMPLE DATA SUMMARY

SDG: B08L25	REVIEWER: PS			DATE: 9/9/93				PAGE_1_OF_1_	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
SBLK	Di-n-butylphthalate	3	J		ug/L	15	30	B08LD0,B08L25	U
SBLK	bis(2-Ethylhexyl)phthalate	2	J		ug/L	10	20	B08LD0,B08L25	U

DATA QUALIFICATION SUMMARY

SDG: B08L25	REVIEWER: PS	DATE: 9/8/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Di-n-butylphthalate	U	B08LD0, B08L25	Lab Blank Contamination
bis-(2-Ethylhexyl)phthalate	U	B08LD0, B08L25	Lab Blank Contamination

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L30																				
Sample Number		B08L30		B08L90		B08LB0		B08LC0													
Location		199-K-21		199-K-37		699-78-62		EB-1													
Remarks																					
Sample Date		06/25/93		06/26/93		06/26/93		06/26/93													
Extraction Date		07/01/93		07/01/93		07/01/93		07/01/93													
Analysis Date		07/15/93		07/14/93		07/15/93		07/15/93													
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U	10	U	10	U	10	U												
bis(2-Chloroethyl)ether	10	10	U	10	U	10	U	10	U												
2-Chlorophenol	10	10	U	10	U	10	U	10	U												
1,3-Dichlorobenzene	10	10	U	10	U	10	U	10	U												
1,4-Dichlorobenzene	10	10	U	10	U	10	U	10	U												
1,2-Dichlorobenzene	10	10	U	10	U	10	U	10	U												
2-Methylphenol	10	10	U	10	U	10	U	10	U												
2,2'-oxybis(1-Chloropropane)	10	10	U	10	U	10	U	10	U												
4-Methylphenol	10	10	U	10	U	10	U	10	U												
N-Nitroso-di-n-propylamine	10	10	U	10	U	10	U	10	U												
Hexachloroethane	10	10	U	10	U	10	U	10	U												
Nitrobenzene	10	10	U	10	U	10	U	10	U												
Isophorone	10	10	U	10	U	10	U	10	U												
2-Nitrophenol	10	10	U	10	U	10	U	10	U												
2,4-Dimethylphenol	10	10	U	10	U	10	U	10	U												
bis(2-Chloroethoxy)methane	10	10	U	10	U	10	U	10	U												
2,4-Dichlorophenol	10	10	U	10	U	10	U	10	U												
1,2,4-Trichlorobenzene	10	10	U	10	U	10	U	10	U												
Naphthalene	10	10	U	10	U	10	U	10	U												
4-Chloroaniline	10	10	U	10	U	10	U	10	U												
Hexachlorobutadiene	10	10	U	10	U	10	U	10	U												
4-Chloro-3-methylphenol	10	10	U	10	U	10	U	10	U												
2-Methylnaphthalene	10	10	U	10	U	10	U	10	U												
Hexachlorocyclopentadiene	10	10	U	10	U	10	U	10	U												
2,4,6-Trichlorophenol	10	10	U	10	U	10	U	10	U												
2,4,5-Trichlorophenol	50	25	U	25	U	25	U	25	U												
2-Chloronaphthalene	10	10	U	10	U	10	U	10	U												
2-Nitroaniline	50	25	U	25	U	25	U	25	U												
Dimethylphthalate	10	10	U	10	U	10	U	10	U												
Acenaphthylene	10	10	U	10	U	10	U	10	U												
2,6-Dinitrotoluene	10	10	U	10	U	10	U	10	U												
3-Nitroaniline	50	25	U	25	U	25	U	25	U												
Acenaphthene	10	10	U	10	U	10	U	10	U												

EB = Equipment Blank

9713520.0951

WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L30																				
Sample Number		B08L30		B08L90		B08LB0		B08LC0													
Location		199-K-21		199-K-37		699-78-62		EB-1													
Remarks																					
Sample Date		06/25/93		06/26/93		06/26/93		06/26/93													
Extraction Date		07/01/93		07/01/93		07/01/93		07/01/93													
Analysis Date		07/15/93		07/14/93		07/15/93		07/15/93													
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U	25	U	25	U	25	U												
4-Nitrophenol	50	25	U	25	U	25	U	25	U												
Dibenzofuran	10	10	U	10	U	10	U	10	U												
2,4-Dinitrotoluene	10	10	U	10	U	10	U	10	U												
Diethylphthalate	10	10	U	10	U	10	U	0.6	J												
4-Chlorophenyl-phenylether	10	10	U	10	U	10	U	10	U												
Fluorene	10	10	U	10	U	10	U	10	U												
4-Nitroaniline	50	25	U	25	U	25	U	25	U												
4,6-Dinitro-2-methylphenol	50	25	U	25	U	25	U	25	U												
N-Nitrosodiphenylamine	10	10	U	10	U	10	U	10	U												
4-Bromophenyl-phenylether	10	10	U	10	U	10	U	10	U												
Hexachlorobenzene	10	10	U	10	U	10	U	10	U												
Pentachlorophenol	50	25	U	25	U	25	U	25	U												
Phenanthrene	10	10	U	10	U	10	U	10	U												
Anthracene	10	10	U	10	U	10	U	10	U												
Carbazole	10	10	U	10	U	10	U	10	U												
Di-n-butylphthalate	10	10	U	10	U	10	U	10	U												
Fluoranthene	10	10	U	10	U	10	U	10	U												
Pyrene	10	10	U	10	U	10	U	10	U												
Butylbenzylphthalate	10	10	U	10	U	10	U	10	U												
3,3'-Dichlorobenzidine	10	10	U	10	U	10	U	10	U												
Benzo(a)anthracene	10	10	U	10	U	10	U	10	U												
Chrysene	10	10	U	10	U	10	U	10	U												
bis(2-Ethylhexyl)phthalate	10	10	U	10	U	10	U	10	U												
Di-n-octylphthalate	10	10	U	10	U	10	U	10	U												
Benzo(b)fluoranthene	10	10	U	10	U	10	U	10	U												
Benzo(k)fluoranthene	10	10	U	10	U	10	U	10	U												
Benzo(a)pyrene	10	10	U	10	U	10	U	10	U												
Indeno(1,2,3-cd)pyrene	10	10	U	10	U	10	U	10	U												
Dibenz(a,h)anthracene	10	10	U	10	U	10	U	10	U												
Benzo(g,h,i)perylene	10	10	U	10	U	10	U	10	U												

EB = Equipment Blank

9713520.0952
WHC-SD-EN-TI-200, Rev. 0

BLANK AND SAMPLE DATA SUMMARY

SDG: B08L30	REVIEWER: PS			DATE: 9/7/93				PAGE_1_OF_1_	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
SBLK	Di-n-butylphthalate	2	J	20:18	ug/L	10	20	All	U
SBLK	bis(2-Ethylhexyl)phthalate	2	J	24:00	ug/L	10	20	All	U

9713520.0953

DATA QUALIFICATION SUMMARY

SDG: B08L30	REVIEWER: PS	DATE: 9/7/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Di-n-butylphthalate	U	All	Lab Blank Contamination
bis(2-Ethylhexyl)phthalate	U	All	Lab Blank Contamination

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L35																				
Sample Number		B08L35																			
Location		199-K-22																			
Remarks		NV																			
Sample Date		06/08/93																			
Extraction Date		06/14/93																			
Analysis Date		06/22/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U																		
bis(2-Chloroethyl)ether	10	10	U																		
2-Chlorophenol	10	10	U																		
1,3-Dichlorobenzene	10	10	U																		
1,4-Dichlorobenzene	10	10	U																		
1,2-Dichlorobenzene	10	10	U																		
2-Methylphenol	10	10	U																		
2,2'-oxybis(1-Chloropropane)	10	10	U																		
4-Methylphenol	10	10	U																		
N-Nitroso-di-n-propylamine	10	10	U																		
Hexachloroethane	10	10	U																		
Nitrobenzene	10	10	U																		
Isophorone	10	10	U																		
2-Nitrophenol	10	10	U																		
2,4-Dimethylphenol	10	10	U																		
bis(2-Chloroethoxy)methane	10	10	U																		
2,4-Dichlorophenol	10	10	U																		
1,2,4-Trichlorobenzene	10	10	U																		
Naphthalene	10	10	U																		
4-Chloroaniline	10	10	U																		
Hexachlorobutadiene	10	10	U																		
4-Chloro-3-methylphenol	10	10	U																		
2-Methylnaphthalene	10	10	U																		
Hexachlorocyclopentadiene	10	10	U																		
2,4,6-Trichlorophenol	10	10	U																		
2,4,5-Trichlorophenol	50	25	U																		
2-Chloronaphthalene	10	10	U																		
2-Nitroaniline	50	25	U																		
Dimethylphthalate	10	10	U																		
Acenaphthylene	10	10	U																		
2,6-Dinitrotoluene	10	10	U																		
3-Nitroaniline	50	25	U																		
Acenaphthene	10	10	U																		

NV = Not Validated

9713520.0755 WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L35																				
Sample Number		B08L35																			
Location		199-K-22																			
Remarks		NV																			
Sample Date		06/08/93																			
Extraction Date		06/14/93																			
Analysis Date		06/22/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U																		
4-Nitrophenol	50	25	U																		
Dibenzofuran	10	10	U																		
2,4-Dinitrotoluene	10	10	U																		
Diethylphthalate	10	10	U																		
4-Chlorophenyl-phenylether	10	10	U																		
Fluorene	10	10	U																		
4-Nitroaniline	50	25	U																		
4,6-Dinitro-2-methylphenol	50	25	U																		
N-Nitrosodiphenylamine	10	10	U																		
4-Bromophenyl-phenylether	10	10	U																		
Hexachlorobenzene	10	10	U																		
Pentachlorophenol	50	25	U																		
Phenanthrene	10	10	U																		
Anthracene	10	10	U																		
Carbazole	10	10	U																		
Di-n-butylphthalate	10	3	J																		
Fluoranthene	10	10	U																		
Pyrene	10	10	U																		
Butylbenzylphthalate	10	10	U																		
3,3'-Dichlorobenzidine	10	10	U																		
Benzo(a)anthracene	10	10	U																		
Chrysene	10	10	U																		
bis(2-Ethylhexyl)phthalate	10	2	J																		
Di-n-octylphthalate	10	10	U																		
Benzo(b)fluoranthene	10	10	U																		
Benzo(k)fluoranthene	10	10	U																		
Benzo(a)pyrene	10	10	U																		
Indeno(1,2,3-cd)pyrene	10	10	U																		
Dibenz(a,h)anthracene	10	10	U																		
Benzo(g,h,i)perylene	10	10	U																		

NV = Not Validated

9713520.0956
WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L40																				
Sample Number		B08L40		B08LC5																	
Location		199-K-23		EB-2																	
Remarks																					
Sample Date		07/06/93		07/06/93																	
Extraction Date		07/12/93		07/12/93																	
Analysis Date		07/15/93		07/15/93																	
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	5	J	3	J																
bis(2-Chloroethyl)ether	10	10	U	10	U																
2-Chlorophenol	10	10	U	10	U																
1,3-Dichlorobenzene	10	10	U	10	U																
1,4-Dichlorobenzene	10	10	U	10	U																
1,2-Dichlorobenzene	10	10	U	10	U																
2-Methylphenol	10	10	U	10	U																
2,2'-oxybis(1-Chloropropane)	10	10	U	10	U																
4-Methylphenol	10	10	U	10	U																
N-Nitroso-di-n-propylamine	10	10	U	10	U																
Hexachloroethane	10	10	U	10	U																
Nitrobenzene	10	10	U	10	U																
Isophorone	10	10	U	10	U																
2-Nitrophenol	10	10	U	10	U																
2,4-Dimethylphenol	10	10	U	10	U																
bis(2-Chloroethoxy)methane	10	10	U	10	U																
2,4-Dichlorophenol	10	10	U	10	U																
1,2,4-Trichlorobenzene	10	10	U	10	U																
Naphthalene	10	10	U	10	U																
4-Chloroaniline	10	10	U	10	U																
Hexachlorobutadiene	10	10	U	10	U																
4-Chloro-3-methylphenol	10	10	U	10	U																
2-Methylnaphthalene	10	10	U	10	U																
Hexachlorocyclopentadiene	10	10	U	10	U																
2,4,6-Trichlorophenol	10	10	U	10	U																
2,4,5-Trichlorophenol	50	25	U	25	U																
2-Chloronaphthalene	10	10	U	10	U																
2-Nitroaniline	50	25	U	25	U																
Dimethylphthalate	10	10	U	0.6	J																
Acenaphthylene	10	10	U	10	U																
2,6-Dinitrotoluene	10	10	U	10	U																
3-Nitroaniline	50	25	U	25	U																
Acenaphthene	10	10	U	10	U																

EB = Equipment Blank

9713520.0957 WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L40																				
Sample Number		B08L40		B08LC5																	
Location		199-K-23		EB-2																	
Remarks																					
Sample Date		07/06/93		07/06/93																	
Extraction Date		07/12/93		07/12/93																	
Analysis Date		07/15/93		07/15/93																	
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U	25	U																
4-Nitrophenol	50	25	U	25	U																
Dibenzofuran	10	10	U	10	U																
2,4-Dinitrotoluene	10	10	U	10	U																
Diethylphthalate	10	10	U	4	J																
4-Chlorophenyl-phenylether	10	10	U	10	U																
Fluorene	10	10	U	10	U																
4-Nitroaniline	50	25	U	25	U																
4,6-Dinitro-2-methylphenol	50	25	U	25	U																
N-Nitrosodiphenylamine	10	10	U	10	U																
4-Bromophenyl-phenylether	10	10	U	10	U																
Hexachlorobenzene	10	10	U	10	U																
Pentachlorophenol	50	25	U	25	U																
Phenanthrene	10	10	U	10	U																
Anthracene	10	10	U	10	U																
Carbazole	10	10	U	10	U																
Di-n-butylphthalate	10	10	U	10	U																
Fluoranthene	10	10	U	10	U																
Pyrene	10	10	U	10	U																
Butylbenzylphthalate	10	10	U	10	U																
3,3'-Dichlorobenzidine	10	10	U	10	U																
Benzo(a)anthracene	10	10	U	10	U																
Chrysene	10	10	U	10	U																
bis(2-Ethylhexyl)phthalate	10	10	U	10	U																
Di-n-octylphthalate	10	10	U	10	U																
Benzo(b)fluoranthene	10	10	U	10	U																
Benzo(k)fluoranthene	10	10	U	10	U																
Benzo(a)pyrene	10	10	U	10	U																
Indeno(1,2,3-cd)pyrene	10	10	U	10	U																
Dibenz(a,h)anthracene	10	10	U	10	U																
Benzo(g,h,i)perylene	10	10	U	10	U																

EB = Equipment Blank

9713520.0958
WHC-SD-EN-TI-200, Rev. 0

BLANK AND SAMPLE DATA SUMMARY

SDG: B08L40	REVIEWER: CH			DATE: 9/20/93				PAGE 1 OF 1	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
SBLK	Di-n-butylphthalate	0.5	J		ug/L	2.5	5	B08L40, B08LC5	U
SBLK	bis(2-Ethylhexyl)-phthalate	0.5	J		ug/L	2.5	5	B08L40, B08LC5	U

9713520.0059
WHC-SD-EN-TI-200, Rev. 0

DATA QUALIFICATION SUMMARY

SDG: B08L40	REVIEWER: CH	DATE: 9/20/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Di-n-butylphthalate	U	B08L40, B08LC5	Lab blank contamination
bis(2-Ethylhexyl)-phthalate	U	B08L40, B08LC5	Lab blank contamination

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L50																				
Sample Number		B08L50																			
Location		199-K-30																			
Remarks		NV																			
Sample Date		06/03/93																			
Extraction Date		06/10/93																			
Analysis Date		06/18/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U																		
bis(2-Chloroethyl)ether	10	10	U																		
2-Chlorophenol	10	10	U																		
1,3-Dichlorobenzene	10	10	U																		
1,4-Dichlorobenzene	10	10	U																		
1,2-Dichlorobenzene	10	10	U																		
2-Methylphenol	10	10	U																		
2,2'-oxybis(1-Chloropropane)	10	10	U																		
4-Methylphenol	10	10	U																		
N-Nitroso-di-n-propylamine	10	10	U																		
Hexachloroethane	10	10	U																		
Nitrobenzene	10	10	U																		
Isophorone	10	10	U																		
2-Nitrophenol	10	10	U																		
2,4-Dimethylphenol	10	10	U																		
bis(2-Chloroethoxy)methane	10	10	U																		
2,4-Dichlorophenol	10	10	U																		
1,2,4-Trichlorobenzene	10	10	U																		
Naphthalene	10	10	U																		
4-Chloroaniline	10	10	U																		
Hexachlorobutadiene	10	10	U																		
4-Chloro-3-methylphenol	10	10	U																		
2-Methylnaphthalene	10	10	U																		
Hexachlorocyclopentadiene	10	10	U																		
2,4,6-Trichlorophenol	10	10	U																		
2,4,5-Trichlorophenol	50	25	U																		
2-Chloronaphthalene	10	10	U																		
2-Nitroaniline	50	25	U																		
Dimethylphthalate	10	10	U																		
Acenaphthylene	10	10	U																		
2,6-Dinitrotoluene	10	10	U																		
3-Nitroaniline	50	25	U																		
Acenaphthene	10	10	U																		

NV = Not Validated

9713520.0961 SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																							
Laboratory: Roy F. Weston																							
Case	SDG: B08L50																						
Sample Number		B08L50																					
Location		199-K-30																					
Remarks		NV																					
Sample Date		06/03/93																					
Extraction Date		06/10/93																					
Analysis Date		06/18/93																					
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U																				
4-Nitrophenol	50	25	U																				
Dibenzofuran	10	10	U																				
2,4-Dinitrotoluene	10	10	U																				
Diethylphthalate	10	10	U																				
4-Chlorophenyl-phenylether	10	10	U																				
Fluorene	10	10	U																				
4-Nitroaniline	50	25	U																				
4,6-Dinitro-2-methylphenol	50	25	U																				
N-Nitrosodiphenylamine	10	10	U																				
4-Bromophenyl-phenylether	10	10	U																				
Hexachlorobenzene	10	10	U																				
Pentachlorophenol	50	25	U																				
Phenanthrene	10	10	U																				
Anthracene	10	10	U																				
Carbazole	10	10	U																				
Di-n-butylphthalate	10	1	J																				
Fluoranthene	10	10	U																				
Pyrene	10	10	U																				
Butylbenzylphthalate	10	10	U																				
3,3'-Dichlorobenzidine	10	10	U																				
Benzo(a)anthracene	10	10	U																				
Chrysene	10	10	U																				
bis(2-Ethylhexyl)phthalate	10	10	U																				
Di-n-octylphthalate	10	10	U																				
Benzo(b)fluoranthene	10	10	U																				
Benzo(k)fluoranthene	10	10	U																				
Benzo(a)pyrene	10	10	U																				
Indeno(1,2,3-cd)pyrene	10	10	U																				
Dibenz(a,h)anthracene	10	10	U																				
Benzo(g,h,i)perylene	10	10	U																				

NV = Not Validated

9713520.0962
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Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L55																				
Sample Number		B08L55		B08LB5		B08LD5															
Location		199-K-31		699-73-61		699-73-61															
Remarks						DUP															
Sample Date		06/16/93		06/17/93		06/17/93															
Extraction Date		06/22/93		06/22/93		06/22/93															
Analysis Date		07/13/93		07/13/93		07/13/93															
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U	10	U	10	U														
bis(2-Chloroethyl)ether	10	10	U	10	U	10	U														
2-Chlorophenol	10	10	U	10	U	10	U														
1,3-Dichlorobenzene	10	10	U	10	U	10	U														
1,4-Dichlorobenzene	10	10	U	10	U	10	U														
1,2-Dichlorobenzene	10	10	U	10	U	10	U														
2-Methylphenol	10	10	U	10	U	10	U														
2,2'-oxybis(1-Chloropropane)	10	10	U	10	U	10	U														
4-Methylphenol	10	10	U	10	U	10	U														
N-Nitroso-di-n-propylamine	10	10	U	10	U	10	U														
Hexachloroethane	10	10	U	10	U	10	U														
Nitrobenzene	10	10	U	10	U	10	U														
Isophorone	10	10	U	10	U	10	U														
2-Nitrophenol	10	10	U	10	U	10	U														
2,4-Dimethylphenol	10	10	U	10	U	10	U														
bis(2-Chloroethoxy)methane	10	10	U	10	U	10	U														
2,4-Dichlorophenol	10	10	U	10	U	10	U														
1,2,4-Trichlorobenzene	10	10	U	10	U	10	U														
Naphthalene	10	10	U	10	U	10	U														
4-Chloroaniline	10	10	U	10	U	10	U														
Hexachlorobutadiene	10	10	U	10	U	10	U														
4-Chloro-3-methylphenol	10	10	U	10	U	10	U														
2-Methylnaphthalene	10	10	U	10	U	10	U														
Hexachlorocyclopentadiene	10	10	U	10	U	10	U														
2,4,6-Trichlorophenol	10	10	U	10	U	10	U														
2,4,5-Trichlorophenol	50	25	U	25	U	25	U														
2-Chloronaphthalene	10	10	U	10	U	10	U														
2-Nitroaniline	50	25	U	25	U	25	U														
Dimethylphthalate	10	10	U	10	U	10	U														
Acenaphthylene	10	10	U	10	U	10	U														
2,6-Dinitrotoluene	10	10	U	10	U	10	U														
3-Nitroaniline	50	25	U	25	U	25	U														
Acenaphthene	10	10	U	10	U	10	U														

DUP = Duplicate

9713520.0963
WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L55																				
Sample Number		B08L55		B08LB5		B08LD5															
Location		199-K-31		699-73-61		699-73-61															
Remarks						DUP															
Sample Date		06/16/93		06/17/93		06/17/93															
Extraction Date		06/22/93		06/22/93		06/22/93															
Analysis Date		07/13/93		07/13/93		07/13/93															
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U	25	U	25	U														
4-Nitrophenol	50	25	U	25	U	25	U														
Dibenzofuran	10	10	U	10	U	10	U														
2,4-Dinitrotoluene	10	10	U	10	U	10	U														
Diethylphthalate	10	10	U	10	U	10	U														
4-Chlorophenyl-phenylether	10	10	U	10	U	10	U														
Fluorene	10	10	U	10	U	10	U														
4-Nitroaniline	50	25	U	25	U	25	U														
4,6-Dinitro-2-methylphenol	50	25	U	25	U	25	U														
N-Nitrosodiphenylamine	10	10	U	10	U	10	U														
4-Bromophenyl-phenylether	10	10	U	10	U	10	U														
Hexachlorobenzene	10	10	U	10	U	10	U														
Pentachlorophenol	50	25	U	25	U	25	U														
Phenanthrene	10	10	U	10	U	10	U														
Anthracene	10	10	U	10	U	10	U														
Carbazole	10	10	U	10	U	10	U														
Di-n-butylphthalate	10	10	U	10	U	10	U														
Fluoranthene	10	10	U	10	U	10	U														
Pyrene	10	10	U	10	U	10	U														
Butylbenzylphthalate	10	10	U	10	U	10	U														
3,3'-Dichlorobenzidine	10	10	U	10	U	10	U														
Benzo(a)anthracene	10	10	U	10	U	10	U														
Chrysene	10	10	U	10	U	10	U														
bis(2-Ethylhexyl)phthalate	10	10	U	10	U	10	U														
Di-n-octylphthalate	10	10	U	10	U	10	U														
Benzo(b)fluoranthene	10	10	U	10	U	10	U														
Benzo(k)fluoranthene	10	10	U	10	U	10	U														
Benzo(a)pyrene	10	10	U	10	U	10	U														
Indeno(1,2,3-cd)pyrene	10	10	U	10	U	10	U														
Dibenz(a,h)anthracene	10	10	U	10	U	10	U														
Benzo(g,h,i)perylene	10	10	U	10	U	10	U														

DUP = Duplicate

9713520.0964
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BLANK AND SAMPLE DATA SUMMARY

SDG: B08L55	REVIEWER: KG			DATE: 9/11/93				PAGE 1 OF 1	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
SBLK	Di-n-butylphthalate	2	J		ug/L	10	20	All	U
SBLK	bis(2-Ethylhexyl)phthalate	0.9	J		ug/L	4.5	9	All	U

9713520.0965

DATA QUALIFICATION SUMMARY

SDG: B08L55	REVIEWER: KG	DATE: 9/11/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Di-n-butylphthalate	U	All	Lab Blank Contamination
bis(2-Ethylhexyl)phthalate	U	All	Lab Blank Contamination

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L60																				
Sample Number		B08L60																			
Location		199-K-32A																			
Remarks																					
Sample Date		06/14/93																			
Extraction Date		06/18/93																			
Analysis Date		07/12/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U																		
bis(2-Chloroethyl)ether	10	10	U																		
2-Chlorophenol	10	10	U																		
1,3-Dichlorobenzene	10	10	U																		
1,4-Dichlorobenzene	10	10	U																		
1,2-Dichlorobenzene	10	10	U																		
2-Methylphenol	10	10	U																		
2,2'-oxybis(1-Chloropropane)	10	10	U																		
4-Methylphenol	10	10	U																		
N-Nitroso-di-n-propylamine	10	10	U																		
Hexachloroethane	10	10	U																		
Nitrobenzene	10	10	U																		
Isophorone	10	10	U																		
2-Nitrophenol	10	10	U																		
2,4-Dimethylphenol	10	10	U																		
bis(2-Chloroethoxy)methane	10	10	U																		
2,4-Dichlorophenol	10	10	U																		
1,2,4-Trichlorobenzene	10	10	U																		
Naphthalene	10	10	U																		
4-Chloroaniline	10	10	U																		
Hexachlorobutadiene	10	10	U																		
4-Chloro-3-methylphenol	10	10	U																		
2-Methylnaphthalene	10	10	U																		
Hexachlorocyclopentadiene	10	10	U																		
2,4,6-Trichlorophenol	10	10	U																		
2,4,5-Trichlorophenol	50	25	U																		
2-Chloronaphthalene	10	10	U																		
2-Nitroaniline	50	25	U																		
Dimethylphthalate	10	10	U																		
Acenaphthylene	10	10	U																		
2,6-Dinitrotoluene	10	10	U																		
3-Nitroaniline	50	25	U																		
Acenaphthene	10	10	U																		

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Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L60																				
Sample Number		B08L60																			
Location		199-K-32A																			
Remarks																					
Sample Date		06/14/93																			
Extraction Date		06/18/93																			
Analysis Date		07/12/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U																		
4-Nitrophenol	50	25	U																		
Dibenzofuran	10	10	U																		
2,4-Dinitrotoluene	10	10	U																		
Diethylphthalate	10	10	U																		
4-Chlorophenyl-phenylether	10	10	U																		
Fluorene	10	10	U																		
4-Nitroaniline	50	25	U																		
4,6-Dinitro-2-methylphenol	50	25	U																		
N-Nitrosodiphenylamine	10	10	U																		
4-Bromophenyl-phenylether	10	10	U																		
Hexachlorobenzene	10	10	U																		
Pentachlorophenol	50	25	U																		
Phenanthrene	10	10	U																		
Anthracene	10	10	U																		
Carbazole	10	10	U																		
Di-n-butylphthalate	10	10	U																		
Fluoranthene	10	10	U																		
Pyrene	10	10	U																		
Butylbenzylphthalate	10	10	U																		
3,3'-Dichlorobenzidine	10	10	U																		
Benzo(a)anthracene	10	10	U																		
Chrysene	10	10	U																		
bis(2-Ethylhexyl)phthalate	10	10	U																		
Di-n-octylphthalate	10	10	U																		
Benzo(b)fluoranthene	10	10	U																		
Benzo(k)fluoranthene	10	10	U																		
Benzo(a)pyrene	10	10	U																		
Indeno(1,2,3-cd)pyrene	10	10	U																		
Dibenz(a,h)anthracene	10	10	U																		
Benzo(g,h,i)perylene	10	10	U																		

9713520.0060 WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L65																				
Sample Number		B08L65																			
Location		199-K-32B																			
Remarks		NV																			
Sample Date		07/07/93																			
Extraction Date		07/12/93																			
Analysis Date		07/16/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U																		
bis(2-Chloroethyl)ether	10	10	U																		
2-Chlorophenol	10	10	U																		
1,3-Dichlorobenzene	10	10	U																		
1,4-Dichlorobenzene	10	10	U																		
1,2-Dichlorobenzene	10	10	U																		
2-Methylphenol	10	10	U																		
2,2'-oxybis(1-Chloropropane)	10	10	U																		
4-Methylphenol	10	10	U																		
N-Nitroso-di-n-propylamine	10	10	U																		
Hexachloroethane	10	10	U																		
Nitrobenzene	10	10	U																		
Isophorone	10	10	U																		
2-Nitrophenol	10	10	U																		
2,4-Dimethylphenol	10	10	U																		
bis(2-Chloroethoxy)methane	10	10	U																		
2,4-Dichlorophenol	10	10	U																		
1,2,4-Trichlorobenzene	10	10	U																		
Naphthalene	10	10	U																		
4-Chloroaniline	10	10	U																		
Hexachlorobutadiene	10	10	U																		
4-Chloro-3-methylphenol	10	10	U																		
2-Methylnaphthalene	10	10	U																		
Hexachlorocyclopentadiene	10	10	U																		
2,4,6-Trichlorophenol	10	10	U																		
2,4,5-Trichlorophenol	50	25	U																		
2-Chloronaphthalene	10	10	U																		
2-Nitroaniline	50	25	U																		
Dimethylphthalate	10	10	U																		
Acenaphthylene	10	10	U																		
2,6-Dinitrotoluene	10	10	U																		
3-Nitroaniline	50	25	U																		
Acenaphthene	10	10	U																		

9713520.0968
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Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L65																				
Sample Number		B08L65																			
Location		199-K-32B																			
Remarks		NV																			
Sample Date		07/07/93																			
Extraction Date		07/12/93																			
Analysis Date		07/16/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U																		
4-Nitrophenol	50	25	U																		
Dibenzofuran	10	10	U																		
2,4-Dinitrotoluene	10	10	U																		
Diethylphthalate	10	0.7	J																		
4-Chlorophenyl-phenylether	10	10	U																		
Fluorene	10	10	U																		
4-Nitroaniline	50	25	U																		
4,6-Dinitro-2-methylphenol	50	25	U																		
N-Nitrosodiphenylamine	10	10	U																		
4-Bromophenyl-phenylether	10	10	U																		
Hexachlorobenzene	10	10	U																		
Pentachlorophenol	50	25	U																		
Phenanthrene	10	10	U																		
Anthracene	10	10	U																		
Carbazole	10	10	U																		
Di-n-butylphthalate	10	0.9	J																		
Fluoranthene	10	10	U																		
Pyrene	10	10	U																		
Butylbenzylphthalate	10	10	U																		
3,3'-Dichlorobenzidine	10	10	U																		
Benzo(a)anthracene	10	10	U																		
Chrysene	10	10	U																		
bis(2-Ethylhexyl)phthalate	10	8	J																		
Di-n-octylphthalate	10	10	U																		
Benzo(b)fluoranthene	10	10	U																		
Benzo(k)fluoranthene	10	10	U																		
Benzo(a)pyrene	10	10	U																		
Indeno(1,2,3-cd)pyrene	10	10	U																		
Dibenz(a,h)anthracene	10	10	U																		
Benzo(g,h,i)perylene	10	10	U																		

NV = Not Validated

9713520.0920 WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L70																				
Sample Number		B08L70																			
Location		199-K-33																			
Remarks		NV																			
Sample Date		06/10/93																			
Extraction Date		06/18/93																			
Analysis Date		07/12/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U																		
bis(2-Chloroethyl)ether	10	10	U																		
2-Chlorophenol	10	10	U																		
1,3-Dichlorobenzene	10	10	U																		
1,4-Dichlorobenzene	10	10	U																		
1,2-Dichlorobenzene	10	10	U																		
2-Methylphenol	10	10	U																		
2,2'-oxybis(1-Chloropropane)	10	10	U																		
4-Methylphenol	10	10	U																		
N-Nitroso-di-n-propylamine	10	10	U																		
Hexachloroethane	10	10	U																		
Nitrobenzene	10	10	U																		
Isophorone	10	10	U																		
2-Nitrophenol	10	10	U																		
2,4-Dimethylphenol	10	10	U																		
bis(2-Chloroethoxy)methane	10	10	U																		
2,4-Dichlorophenol	10	10	U																		
1,2,4-Trichlorobenzene	10	10	U																		
Naphthalene	10	10	U																		
4-Chloroaniline	10	10	U																		
Hexachlorobutadiene	10	10	U																		
4-Chloro-3-methylphenol	10	10	U																		
2-Methylnaphthalene	10	10	U																		
Hexachlorocyclopentadiene	10	10	U																		
2,4,6-Trichlorophenol	10	10	U																		
2,4,5-Trichlorophenol	50	25	U																		
2-Chloronaphthalene	10	10	U																		
2-Nitroaniline	50	25	U																		
Dimethylphthalate	10	10	U																		
Acenaphthylene	10	10	U																		
2,6-Dinitrotoluene	10	10	U																		
3-Nitroaniline	50	25	U																		
Acenaphthene	10	10	U																		

NV - Not Validated

9713520.0974 WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L70																				
Sample Number		B08L70																			
Location		199-K-33																			
Remarks		NV																			
Sample Date		06/10/93																			
Extraction Date		06/18/93																			
Analysis Date		07/12/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U																		
4-Nitrophenol	50	25	U																		
Dibenzofuran	10	10	U																		
2,4-Dinitrotoluene	10	10	U																		
Diethylphthalate	10	0.5	J																		
4-Chlorophenyl-phenylether	10	10	U																		
Fluorene	10	10	U																		
4-Nitroaniline	50	25	U																		
4,6-Dinitro-2-methylphenol	50	25	U																		
N-Nitrosodiphenylamine	10	10	U																		
4-Bromophenyl-phenylether	10	10	U																		
Hexachlorobenzene	10	10	U																		
Pentachlorophenol	50	25	U																		
Phenanthrene	10	10	U																		
Anthracene	10	10	U																		
Carbazole	10	10	U																		
Di-n-butylphthalate	10	1	J																		
Fluoranthene	10	10	U																		
Pyrene	10	10	U																		
Butylbenzylphthalate	10	10	U																		
3,3'-Dichlorobenzidine	10	10	U																		
Benzo(a)anthracene	10	10	U																		
Chrysene	10	10	U																		
bis(2-Ethylhexyl)phthalate	10	10	U																		
Di-n-octylphthalate	10	10	U																		
Benzo(b)fluoranthene	10	10	U																		
Benzo(k)fluoranthene	10	10	U																		
Benzo(a)pyrene	10	10	U																		
Indeno(1,2,3-cd)pyrene	10	10	U																		
Dibenz(a,h)anthracene	10	10	U																		
Benzo(g,h,i)perylene	10	10	U																		

NV = Not Validated

9713520.0972
WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L75																				
Sample Number		B08L75																			
Location		199-K-34																			
Remarks		NV																			
Sample Date		06/01/93																			
Extraction Date		06/04/93																			
Analysis Date		06/17/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U																		
bis(2-Chloroethyl)ether	10	10	U																		
2-Chlorophenol	10	10	U																		
1,3-Dichlorobenzene	10	10	U																		
1,4-Dichlorobenzene	10	10	U																		
1,2-Dichlorobenzene	10	10	U																		
2-Methylphenol	10	10	U																		
2,2'-oxybis(1-Chloropropane)	10	10	U																		
4-Methylphenol	10	10	U																		
N-Nitroso-di-n-propylamine	10	10	U																		
Hexachloroethane	10	10	U																		
Nitrobenzene	10	10	U																		
Isophorone	10	10	U																		
2-Nitrophenol	10	10	U																		
2,4-Dimethylphenol	10	10	U																		
bis(2-Chloroethoxy)methane	10	10	U																		
2,4-Dichlorophenol	10	10	U																		
1,2,4-Trichlorobenzene	10	10	U																		
Naphthalene	10	10	U																		
4-Chloroaniline	10	10	U																		
Hexachlorobutadiene	10	10	U																		
4-Chloro-3-methylphenol	10	10	U																		
2-Methylnaphthalene	10	10	U																		
Hexachlorocyclopentadiene	10	10	U																		
2,4,6-Trichlorophenol	10	10	U																		
2,4,5-Trichlorophenol	50	25	U																		
2-Chloronaphthalene	10	10	U																		
2-Nitroaniline	50	25	U																		
Dimethylphthalate	10	10	U																		
Acenaphthylene	10	10	U																		
2,6-Dinitrotoluene	10	10	U																		
3-Nitroaniline	50	25	U																		
Acenaphthene	10	10	U																		

NV = Not Validated

9713520.0073 WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																							
Laboratory: Roy F. Weston																							
Case	SDG: B08L75																						
Sample Number		B08L75																					
Location		199-K-34																					
Remarks		NV																					
Sample Date		06/01/93																					
Extraction Date		06/04/93																					
Analysis Date		06/17/93																					
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U																				
4-Nitrophenol	50	25	U																				
Dibenzofuran	10	10	U																				
2,4-Dinitrotoluene	10	10	U																				
Diethylphthalate	10	10	U																				
4-Chlorophenyl-phenylether	10	10	U																				
Fluorene	10	10	U																				
4-Nitroaniline	50	25	U																				
4,6-Dinitro-2-methylphenol	50	25	U																				
N-Nitrosodiphenylamine	10	10	U																				
4-Bromophenyl-phenylether	10	10	U																				
Hexachlorobenzene	10	10	U																				
Pentachlorophenol	50	25	U																				
Phenanthrene	10	10	U																				
Anthracene	10	10	U																				
Carbazole	10	10	U																				
Di-n-butylphthalate	10	2	J																				
Fluoranthene	10	10	U																				
Pyrene	10	10	U																				
Butylbenzylphthalate	10	10	U																				
3,3'-Dichlorobenzidine	10	10	U																				
Benzo(a)anthracene	10	10	U																				
Chrysene	10	10	U																				
bis(2-Ethylhexyl)phthalate	10	2	J																				
Di-n-octylphthalate	10	10	U																				
Benzo(b)fluoranthene	10	10	U																				
Benzo(k)fluoranthene	10	10	U																				
Benzo(a)pyrene	10	10	U																				
Indeno(1,2,3-cd)pyrene	10	10	U																				
Dibenz(a,h)anthracene	10	10	U																				
Benzo(g,h,i)perylene	10	10	U																				

NV = Not Validated

9713520.0974
WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L80																				
Sample Number		B08L80		B08L85																	
Location		199-K-35		199-K-36																	
Remarks		NV		NV																	
Sample Date		06/02/93		06/02/93																	
Extraction Date		06/07/93		06/07/93																	
Analysis Date		06/17/93		06/17/93																	
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U	10	U																
bis(2-Chloroethyl)ether	10	10	U	10	U																
2-Chlorophenol	10	10	U	10	U																
1,3-Dichlorobenzene	10	10	U	10	U																
1,4-Dichlorobenzene	10	10	U	10	U																
1,2-Dichlorobenzene	10	10	U	10	U																
2-Methylphenol	10	10	U	10	U																
2,2'-oxybis(1-Chloropropane)	10	10	U	10	U																
4-Methylphenol	10	10	U	10	U																
N-Nitroso-di-n-propylamine	10	10	U	10	U																
Hexachloroethane	10	10	U	10	U																
Nitrobenzene	10	10	U	10	U																
Isophorone	10	10	U	10	U																
2-Nitrophenol	10	10	U	10	U																
2,4-Dimethylphenol	10	10	U	10	U																
bis(2-Chloroethoxy)methane	10	10	U	10	U																
2,4-Dichlorophenol	10	10	U	10	U																
1,2,4-Trichlorobenzene	10	10	U	10	U																
Naphthalene	10	10	U	10	U																
4-Chloroaniline	10	10	U	10	U																
Hexachlorobutadiene	10	10	U	10	U																
4-Chloro-3-methylphenol	10	10	U	10	U																
2-Methylnaphthalene	10	10	U	10	U																
Hexachlorocyclopentadiene	10	10	U	10	U																
2,4,6-Trichlorophenol	10	10	U	10	U																
2,4,5-Trichlorophenol	50	25	U	25	U																
2-Chloronaphthalene	10	10	U	10	U																
2-Nitroaniline	50	25	U	25	U																
Dimethylphthalate	10	10	U	10	U																
Acenaphthylene	10	10	U	10	U																
2,6-Dinitrotoluene	10	10	U	10	U																
3-Nitroaniline	50	25	U	25	U																
Acenaphthene	10	10	U	10	U																

NV = Not Validated

9713520.0073 WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L80																				
Sample Number		B08L80		B08L85																	
Location		199-K-35		199-K-36																	
Remarks		NV		NV																	
Sample Date		06/02/93		06/02/93																	
Extraction Date		06/07/93		06/07/93																	
Analysis Date		06/17/93		06/17/93																	
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U	25	U																
4-Nitrophenol	50	25	U	25	U																
Dibenzofuran	10	10	U	10	U																
2,4-Dinitrotoluene	10	10	U	10	U																
Diethylphthalate	10	10	U	10	U																
4-Chlorophenyl-phenylether	10	10	U	10	U																
Fluorene	10	10	U	10	U																
4-Nitroaniline	50	25	U	25	U																
4,6-Dinitro-2-methylphenol	50	25	U	25	U																
N-Nitrosodiphenylamine	10	10	U	10	U																
4-Bromophenyl-phenylether	10	10	U	10	U																
Hexachlorobenzene	10	10	U	10	U																
Pentachlorophenol	50	25	U	25	U																
Phenanthrene	10	10	U	10	U																
Anthracene	10	10	U	10	U																
Carbazole	10	10	U	10	U																
Di-n-butylphthalate	10	1	J	1	J																
Fluoranthene	10	10	U	10	U																
Pyrene	10	10	U	10	U																
Butylbenzylphthalate	10	10	U	10	U																
3,3'-Dichlorobenzidine	10	10	U	10	U																
Benzo(a)anthracene	10	10	U	10	U																
Chrysene	10	10	U	10	U																
bis(2-Ethylhexyl)phthalate	10	2	J	1	J																
Di-n-octylphthalate	10	10	U	10	U																
Benzo(b)fluoranthene	10	10	U	10	U																
Benzo(k)fluoranthene	10	10	U	10	U																
Benzo(a)pyrene	10	10	U	10	U																
Indeno(1,2,3-cd)pyrene	10	10	U	10	U																
Dibenz(a,h)anthracene	10	10	U	10	U																
Benzo(g,h,i)perylene	10	10	U	10	U																

NV = Not Validated

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SEMIVOLATILE ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L95																				
Sample Number		B08L95																			
Location		699-70-68																			
Remarks		NV																			
Sample Date		06/18/93																			
Extraction Date		06/23/93																			
Analysis Date		07/13/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U																		
bis(2-Chloroethyl)ether	10	10	U																		
2-Chlorophenol	10	10	U																		
1,3-Dichlorobenzene	10	10	U																		
1,4-Dichlorobenzene	10	10	U																		
1,2-Dichlorobenzene	10	10	U																		
2-Methylphenol	10	10	U																		
2,2'-oxybis(1-Chloropropane)	10	10	U																		
4-Methylphenol	10	10	U																		
N-Nitroso-di-n-propylamine	10	10	U																		
Hexachloroethane	10	10	U																		
Nitrobenzene	10	10	U																		
Isophorone	10	10	U																		
2-Nitrophenol	10	10	U																		
2,4-Dimethylphenol	10	10	U																		
bis(2-Chloroethoxy)methane	10	10	U																		
2,4-Dichlorophenol	10	10	U																		
1,2,4-Trichlorobenzene	10	10	U																		
Naphthalene	10	10	U																		
4-Chloroaniline	10	10	U																		
Hexachlorobutadiene	10	10	U																		
4-Chloro-3-methylphenol	10	10	U																		
2-Methylnaphthalene	10	10	U																		
Hexachlorocyclopentadiene	10	10	U																		
2,4,6-Trichlorophenol	10	10	U																		
2,4,5-Trichlorophenol	50	25	U																		
2-Chloronaphthalene	10	10	U																		
2-Nitroaniline	50	25	U																		
Dimethylphthalate	10	10	U																		
Acenaphthylene	10	10	U																		
2,6-Dinitrotoluene	10	10	U																		
3-Nitroaniline	50	25	U																		
Acenaphthene	10	10	U																		

9713520.0977 WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L95																				
Sample Number		B08L95																			
Location		699-70-68																			
Remarks		NV																			
Sample Date		06/18/93																			
Extraction Date		06/23/93																			
Analysis Date		07/13/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
2,4-Dinitrophenol	50	25	U																		
4-Nitrophenol	50	25	U																		
Dibenzofuran	10	10	U																		
2,4-Dinitrotoluene	10	10	U																		
Diethylphthalate	10	10	U																		
4-Chlorophenyl-phenylether	10	10	U																		
Fluorene	10	10	U																		
4-Nitroaniline	50	25	U																		
4,6-Dinitro-2-methylphenol	50	25	U																		
N-Nitrosodiphenylamine	10	10	U																		
4-Bromophenyl-phenylether	10	10	U																		
Hexachlorobenzene	10	10	U																		
Pentachlorophenol	50	25	U																		
Phenanthrene	10	10	U																		
Anthracene	10	10	U																		
Carbazole	10	10	U																		
Di-n-butylphthalate	10	2	J																		
Fluoranthene	10	10	U																		
Pyrene	10	10	U																		
Butylbenzylphthalate	10	10	U																		
3,3'-Dichlorobenzidine	10	10	U																		
Benzo(a)anthracene	10	10	U																		
Chrysene	10	10	U																		
bis(2-Ethylhexyl)phthalate	10	2	J																		
Di-n-octylphthalate	10	10	U																		
Benzo(b)fluoranthene	10	10	U																		
Benzo(k)fluoranthene	10	10	U																		
Benzo(a)pyrene	10	10	U																		
Indeno(1,2,3-cd)pyrene	10	10	U																		
Dibenz(a,h)anthracene	10	10	U																		
Benzo(g,h,i)perylene	10	10	U																		

NV = Not Validated

9713520.0978
WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																						
Laboratory: TMA																						
Case	SDG: B08LF0																					
Sample Number		B08LF0																				
Location		199-K-20																				
Remarks		Split																				
Sample Date		06/09/93																				
Extraction Date		06/16/93																				
Analysis Date		06/18/93																				
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	
Phenol	10	10	U																			
bis(2-Chloroethyl)ether	10	10	U																			
2-Chlorophenol	10	10	U																			
1,3-Dichlorobenzene	10	10	U																			
1,4-Dichlorobenzene	10	10	U																			
1,2-Dichlorobenzene	10	10	U																			
2-Methylphenol	10	10	U																			
2,2'-oxybis(1-Chloropropane)	10	10	U																			
4-Methylphenol	10	10	U																			
N-Nitroso-di-n-propylamine	10	10	U																			
Hexachloroethane	10	10	U																			
Nitrobenzene	10	10	U																			
Isophorone	10	10	U																			
2-Nitrophenol	10	10	U																			
2,4-Dimethylphenol	10	10	U																			
bis(2-Chloroethoxy)methane	10	10	U																			
2,4-Dichlorophenol	10	10	U																			
1,2,4-Trichlorobenzene	10	10	U																			
Naphthalene	10	10	U																			
4-Chloroaniline	10	10	U																			
Hexachlorobutadiene	10	10	U																			
4-Chloro-3-methylphenol	10	10	U																			
2-Methylnaphthalene	10	10	U																			
Hexachlorocyclopentadiene	10	10	U																			
2,4,6-Trichlorophenol	10	10	U																			
2,4,5-Trichlorophenol	50	25	U																			
2-Chloronaphthalene	10	10	U																			
2-Nitroaniline	50	25	U																			
Dimethylphthalate	10	10	U																			
Acenaphthylene	10	10	U																			
3-Nitroaniline	50	25	U																			
Acenaphthene	10	10	U																			
2,4-Dinitrophenol	50	25	U																			

9713520.0979 WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: TMA																					
Case	SDG: B08LF0																				
Sample Number		B08LF0																			
Location		199-K-20																			
Remarks		Split																			
Sample Date		06/09/93																			
Extraction Date		06/16/93																			
Analysis Date		06/18/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
4-Nitrophenol	50	25	U																		
Dibenzofuran	10	10	U																		
2,4-Dinitrotoluene	10	10	U																		
2,6-Dinitrotoluene	10	10	U																		
Diethylphthalate	10	10	U																		
4-Chlorophenyl-phenylether	10	10	U																		
Fluorene	10	10	U																		
4-Nitroaniline	50	25	U																		
4,6-Dinitro-2-methylphenol	50	25	U																		
N-Nitrosodiphenylamine	10	10	U																		
4-Bromophenyl-phenylether	10	10	U																		
Hexachlorobenzene	10	10	U																		
Pentachlorophenol	50	25	U																		
Phenanthrene	10	10	U																		
Anthracene	10	10	U																		
Carbazole	10	10	U																		
Di-n-butylphthalate	10	10	U																		
Fluoranthene	10	10	U																		
Pyrene	10	10	U																		
Butylbenzylphthalate	10	10	U																		
3,3'-Dichlorobenzidine	10	10	U																		
Benzo(a)anthracene	10	10	U																		
bis(2-Ethylhexyl)phthalate	10	10	U																		
Chrysene	10	10	U																		
Di-n-octylphthalate	10	10	U																		
Benzo(b)fluoranthene	10	10	U																		
Benzo(k)fluoranthene	10	10	U																		
Benzo(a)pyrene	10	10	U																		
Indeno(1,2,3-cd)pyrene	10	10	U																		
Dibenz(a,h)anthracene	10	10	U																		
Benzo(g,h,i)perylene	10	10	U																		

9713520.0008 HNF-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: TMA																					
Case	SDG: B08LF4																				
Sample Number		B08LF4																			
Location		699-73-61																			
Remarks		Split																			
Sample Date		06/17/93																			
Extraction Date		06/22/93																			
Analysis Date		07/02/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Phenol	10	10	U																		
bis(2-Chloroethyl)ether	10	10	U																		
2-Chlorophenol	10	10	U																		
1,3-Dichlorobenzene	10	10	U																		
1,4-Dichlorobenzene	10	10	U																		
1,2-Dichlorobenzene	10	10	U																		
2-Methylphenol	10	10	U																		
2,2'-oxybis(1-Chloropropane)	10	10	U																		
4-Methylphenol	10	10	U																		
N-Nitroso-di-n-propylamine	10	10	U																		
Hexachloroethane	10	10	U																		
Nitrobenzene	10	10	U																		
Isophorone	10	10	U																		
2-Nitrophenol	10	10	U																		
2,4-Dimethylphenol	10	10	U																		
bis(2-Chloroethoxy)methane	10	10	U																		
2,4-Dichlorophenol	10	10	U																		
1,2,4-Trichlorobenzene	10	10	U																		
Naphthalene	10	10	U																		
4-Chloroaniline	10	10	U																		
Hexachlorobutadiene	10	10	U																		
4-Chloro-3-methylphenol	10	10	U																		
2-Methylnaphthalene	10	10	U																		
Hexachlorocyclopentadiene	10	10	U																		
2,4,6-Trichlorophenol	10	10	U																		
2,4,5-Trichlorophenol	50	25	U																		
2-Chloronaphthalene	10	10	U																		
2-Nitroaniline	50	25	U																		
Dimethylphthalate	10	10	U																		
Acenaphthylene	10	10	U																		
3-Nitroaniline	50	25	U																		
Acenaphthene	10	10	U																		
2,4-Dinitrophenol	50	25	U																		

9713520.0981 WHC-SD-EN-TI-200, Rev. 0

Project: WESTINGHOUSE-HANFORD																					
Laboratory: TMA																					
Case	SDG: B08LF4																				
Sample Number		B08LF4																			
Location		699-73-61																			
Remarks		Split																			
Sample Date		06/17/93																			
Extraction Date		06/22/93																			
Analysis Date		07/02/93																			
Semivolatile Compound	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
4-Nitrophenol	50	25	U																		
Dibenzofuran	10	10	U																		
2,4-Dinitrotoluene	10	10	U																		
2,6-Dinitrotoluene	10	10	U																		
Diethylphthalate	10	10	U																		
4-Chlorophenyl-phenylether	10	10	U																		
Fluorene	10	10	U																		
4-Nitroaniline	50	25	U																		
4,6-Dinitro-2-methylphenol	50	25	U																		
N-Nitrosodiphenylamine	10	10	U																		
4-Bromophenyl-phenylether	10	10	U																		
Hexachlorobenzene	10	10	U																		
Pentachlorophenol	50	25	U																		
Phenanthrene	10	10	U																		
Anthracene	10	10	U																		
Carbazole	10	10	U																		
Di-n-butylphthalate	10	10	U																		
Fluoranthene	10	10	U																		
Pyrene	10	10	U																		
Butylbenzylphthalate	10	10	U																		
3,3'-Dichlorobenzidine	10	10	U																		
Benzo(a)anthracene	10	10	U																		
bis(2-Ethylhexyl)phthalate	10	2	J																		
Chrysene	10	10	U																		
Di-n-octylphthalate	10	10	U																		
Benzo(b)fluoranthene	10	10	U																		
Benzo(k)fluoranthene	10	10	U																		
Benzo(a)pyrene	10	10	U																		
Indeno(1,2,3-cd)pyrene	10	10	U																		
Dibenz(a,h)anthracene	10	10	U																		
Benzo(g,h,i)perylene	10	10	U																		

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WELL AND SAMPLE INFORMATION					SAMPLE LOCATION INFORMATION
SAMPLE LOCATION	SAMPLE NUMBER	MATRIX	DATE SAMPLED	NV/V	PESTICIDES/PCBs
199-K-11	B08L05	W	06/04/93	NV	4-6
199-K-13	B08L10	W	07/08/93	NV	4-7
199-K-18	B08L15	W	06/07/93	NV	4-8
199-K-19	B08L20	W	06/15/93	NV	4-9
199-K-20	B08L25 B08LD0 B08LF0	W W W	06/09/93 06/09/93 06/09/93	V V V	4-10 4-10 4-28
199-K-21	B08L30	W	06/25/93	V	4-11
199-K-22	B08L35	W	06/08/93	NV	4-14
199-K-23	B08L40	W	07/07/93	V	4-15
199-K-27	B08L45	W	06/04/93	NV	4-6
199-K-30	B08L50	W	06/03/93	NV	4-18
199-K-31	B08L55	W	06/16/93	V	4-19
199-K-32A	B08L60	W	06/14/93	V	4-22
199-K-32B	B08L65	W	07/07/93	NV	4-23
199-K-33	B08L70	W	06/10/93	NV	4-24
199-K-34	B08L75	W	06/01/93	NV	4-25
199-K-35	B08L80	W	06/02/93	NV	4-26
199-K-36	B08L85	W	06/02/93	NV	4-26
199-K-37	B08L90	W	06/26/93	V	4-11
699-70-68	B08L95	W	06/18/93	NV	4-27
699-78-62	B08LB0	W	06/26/93	V	4-11
699-73-61	B08LB5 B08LD5 B08LF4	W W W	06/17/93 06/17/93 06/17/93	V V V	4-19 4-19 4-29
EB-1	B08LC0	W	06/26/93	V	4-11
EB-2	B08LC5	W	07/06/93	V	4-15

4.0 PESTICIDE AND PCB DATA VALIDATION

4.1 DATA PACKAGE COMPLETENESS

The following data packages (SDG Nos.) were submitted for validation and found to be complete:

B08L25	B08L40	B08L60	B08LF4
B08L30	B08L55	B08LF0	

4.2 HOLDING TIMES

Analytical holding times were assessed to ascertain whether the holding time requirements for pesticide/PCB analyses were met by the laboratory. Westinghouse-Hanford procedures require that samples be extracted within seven days of collection and analyzed within 40 days of extraction (WHC 1992a).

Holding time requirements were met for all samples.

4.3 INSTRUMENT PERFORMANCE AND CALIBRATIONS

Instrument performance was assessed to ensure that adequate chromatographic resolution and instrument sensitivity were achieved by the gas chromatographic system.

The specific criteria for acceptable instrument performance are outlined in EPA guidelines (EPA 1988b and 1991), including the evaluation and qualification procedures that may be performed on the analytical results.

Instrument calibration is performed to ensure that the chromatographic system is capable of producing acceptable and reliable analytical data. The initial and continuing calibrations are to be performed according to procedures established by CLP protocols. An initial calibration is performed prior to sample analysis to establish the linear range of the system, including a demonstration that all target compounds can be detected. Continuing calibration checks are performed to verify that instrument performance is stable and reproducible on a day-to-day basis.

During the quality assurance review, all indicators for acceptable instrument performance were verified. The criteria established by CLP protocols were met and the results are acceptable.

4.3.1 Initial Calibrations

The laboratory performed an initial multipoint calibration for all target compounds at the concentrations required by CLP protocols. The linearity of the initial calibration is established when the percent RSD or the calibration factors are less than or equal to 10 percent (or 15% for certain analytes).

All initial calibration results were acceptable.

4.3.2 Calibration Verification

The criteria for acceptable continuing calibrations requires that the calibration factors for all target compounds have a percent difference of less than or equal to 15 percent of the average calibration factor calculated for the associated initial calibration standard. The 15 percent difference value is required for results calculated using the chromatographic column which is used for quantitative purposes. In addition, the percent difference of the calibration factors calculated for the chromatographic column that is used for confirmation must be less than or equal to 20 percent.

All calibration verification results were acceptable.

4.4 BLANKS

Method blank and field blank analyses are performed to determine the extent of laboratory or field contamination of samples. No contaminants should be present in the blanks. Analytical results for analytes present in any sample at less than 5 times the concentration of that analyte found in associated blanks should be qualified as non-detects.

There were no compounds of concern detected in the method or field blanks.

4.5 ACCURACY

Accuracy was assessed by evaluating the recoveries of the surrogate compounds and the matrix spike recoveries calculated for the sample analyses.

4.5.1 Matrix Spike Recovery

Matrix spike analyses are performed in duplicate using six compounds specified by CLP protocols. The recoveries for the six compounds must be within the acceptable quality control limits established by CLP protocols.

All matrix spike/matrix spike duplicate results were acceptable.

4.5.2 Surrogate Recovery

Surrogate compound recoveries are calculated using analytical results from two stable surrogate compounds added to the sample prior to sample preparation and analysis. Matrix-specific surrogate compound recovery control windows have been established by the EPA CLP program. When recoveries for either surrogate compound are out of the control window, all positively identified target compound concentrations in samples associated with the unacceptable surrogate recoveries are qualified as estimates (J) and undetected compounds are qualified estimated below the detection limit (UJ).

Sample numbers B08LB0 and B08LC0 in SDG No. B08L30, sample numbers B08L40 and B08LC5 in SDG No. B08L40, and sample number B08LB5 in SDG No. B08L55 exhibited low surrogate recoveries on one column for surrogate compound tetrachloro-m-xylene. All associated results were qualified as estimates and flagged "J".

Surrogate recovery results were acceptable for all other samples.

4.6 PRECISION

Precision is expressed by the RPD between the recoveries of the matrix spike and the matrix spike duplicate analyses performed on a sample. When the laboratory has not performed duplicate spike analyses, precision may also be assessed by using unspiked duplicate analyses.

All matrix spike/matrix spike duplicate RPDs were acceptable.

4.7 COMPOUND IDENTIFICATION AND QUANTITATION

The data were evaluated to confirm the positive concentrations and to investigate the possibility of false negatives in all other data. Confirmation of possible false negatives is addressed by reviewing other factors relating to analytical sensitivity (e.g., detection limits, instrument linearity, analytical recovery). These factors were found to be in control, and the data are acceptable.

Compound quantitations and reported detection limits were recalculated and verified for a minimum of 20 percent of the samples in each case to ensure that they were accurate and are consistent with CLP requirements (EPA 1991). The reported detection limits must be in accordance with the CRQLs specified in the applicable CLP statement of work.

All validated compound identifications, CRQLs, and quantitation results were acceptable.

4.8 OVERALL ASSESSMENT AND SUMMARY

A thorough review of ongoing data acquisition and instrument performance criteria was made to assess overall GC/MS instrument performance. No changes in instrument performance were noted that would result in the degradation of data quality. No indications of unacceptable instrument performance (i.e., shifts in baseline stability, retention time shifts, extraneous peaks, or sensitivity) were found during the quality assurance review.

In general, the pesticide/PCB data presented in this report met the protocol-specified QA/QC requirements. The surrogate recovery for tetrachloro-m-xylene was low on one column for five samples. All associated results were qualified as estimates and flagged "J". Estimated data are usable for limited purposes only. All other validated data are considered valid and usable within the standard error associated with the method.

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PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L05																				
Sample Number		B08L05		B08L45																	
Location		199-K-11		199-K-27																	
Remarks		NV		NV																	
Sample Date		06/04/93		06/04/93																	
Extraction Date		06/10/93		06/10/93																	
Analysis Date		06/17/93		06/17/93																	
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U	0.050	U																
beta-BHC	0.05	0.050	U	0.050	U																
delta-BHC	0.05	0.050	U	0.050	U																
gamma-BHC (Lindane)	0.05	0.050	U	0.050	U																
Heptachlor	0.05	0.050	U	0.050	U																
Aldrin	0.05	0.050	U	0.050	U																
Heptachlor epoxide	0.05	0.050	U	0.050	U																
Endosulfan I	0.05	0.050	U	0.050	U																
Dieldrin	0.10	0.10	U	0.10	U																
4,4'-DDE	0.10	0.10	U	0.10	U																
Endrin	0.10	0.10	U	0.10	U																
Endosulfan II	0.10	0.10	U	0.10	U																
4,4'-DDD	0.10	0.10	U	0.10	U																
Endosulfan sulfate	0.10	0.10	U	0.10	U																
4,4'-DDT	0.10	0.10	U	0.10	U																
Methoxychlor	0.50	0.50	U	0.50	U																
Endrin Ketone	0.10	0.10	U	0.10	U																
Endrin Aldehyde	0.10	0.10	U	0.10	U																
alpha-Chlordane	0.05	0.050	U	0.050	U																
gamma-Chlordane	0.05	0.050	U	0.050	U																
Toxaphene	5.00	5.0	U	5.0	U																
Aroclor-1016	1.00	1.0	U	1.0	U																
Aroclor-1221	1.00	2.0	U	2.0	U																
Aroclor-1232	2.00	1.0	U	1.0	U																
Aroclor-1242	1.00	1.0	U	1.0	U																
Aroclor-1248	1.00	1.0	U	1.0	U																
Aroclor-1254	1.00	1.0	U	1.0	U																
Aroclor-1260	1.00	1.0	U	1.0	U																

NV = Not Validated

9713520.0009 WHC-SD-EN-TI-200, Rev. 0

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L10																				
Sample Number		B08L10																			
Location		199-K-13																			
Remarks		NV																			
Sample Date		07/08/93																			
Extraction Date		07/13/93																			
Analysis Date		07/16/93																			
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U																		
beta-BHC	0.05	0.050	U																		
delta-BHC	0.05	0.050	U																		
gamma-BHC (Lindane)	0.05	0.050	U																		
Heptachlor	0.05	0.050	U																		
Aldrin	0.05	0.050	U																		
Heptachlor epoxide	0.05	0.050	U																		
Endosulfan I	0.05	0.050	U																		
Dieldrin	0.10	0.10	U																		
4,4'-DDE	0.10	0.10	U																		
Endrin	0.10	0.10	U																		
Endosulfan II	0.10	0.10	U																		
4,4'-DDD	0.10	0.10	U																		
Endosulfan sulfate	0.10	0.10	U																		
4,4'-DDT	0.10	0.10	U																		
Methoxychlor	0.50	0.50	U																		
Endrin Ketone	0.10	0.10	U																		
Endrin Aldehyde	0.10	0.10	U																		
alpha-Chlordane	0.05	0.050	U																		
gamma-Chlordane	0.05	0.050	U																		
Toxaphene	5.00	5.0	U																		
Aroclor-1016	1.00	1.0	U																		
Aroclor-1221	1.00	2.0	U																		
Aroclor-1232	2.00	1.0	U																		
Aroclor-1242	1.00	1.0	U																		
Aroclor-1248	1.00	1.0	U																		
Aroclor-1254	1.00	1.0	U																		
Aroclor-1260	1.00	1.0	U																		

NV = Not Validated

9713520.0990
WHC-SD-EN-TI-200, Rev. 0

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L15																				
Sample Number		B08L15																			
Location		199-K-18																			
Remarks		NV																			
Sample Date		06/07/93																			
Extraction Date		06/14/93																			
Analysis Date		06/23/93																			
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U																		
beta-BHC	0.05	0.050	U																		
delta-BHC	0.05	0.050	U																		
gamma-BHC (Lindane)	0.05	0.050	U																		
Heptachlor	0.05	0.050	U																		
Aldrin	0.05	0.050	U																		
Heptachlor epoxide	0.05	0.050	U																		
Endosulfan I	0.05	0.050	U																		
Dieldrin	0.10	0.10	U																		
4,4'-DDE	0.10	0.10	U																		
Endrin	0.10	0.10	U																		
Endosulfan II	0.10	0.10	U																		
4,4'-DDD	0.10	0.10	U																		
Endosulfan sulfate	0.10	0.10	U																		
4,4'-DDT	0.10	0.10	U																		
Methoxychlor	0.50	0.50	U																		
Endrin Ketone	0.10	0.10	U																		
Endrin Aldehyde	0.10	0.10	U																		
alpha-Chlordane	0.05	0.050	U																		
gamma-Chlordane	0.05	0.050	U																		
Toxaphene	5.00	5.0	U																		
Aroclor-1016	1.00	1.0	U																		
Aroclor-1221	1.00	2.0	U																		
Aroclor-1232	2.00	1.0	U																		
Aroclor-1242	1.00	1.0	U																		
Aroclor-1248	1.00	1.0	U																		
Aroclor-1254	1.00	1.0	U																		
Aroclor-1260	1.00	1.0	U																		

NV = Not Validated

9713520.0001
WHC-SD-EN-TI-200, Rev. 0

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L20																				
Sample Number		B08L20																			
Location		199-K-19																			
Remarks		NV																			
Sample Date		06/15/93																			
Extraction Date		06/18/93																			
Analysis Date		06/23/93																			
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U																		
beta-BHC	0.05	0.050	U																		
delta-BHC	0.05	0.050	U																		
gamma-BHC (Lindane)	0.05	0.050	U																		
Heptachlor	0.05	0.050	U																		
Aldrin	0.05	0.050	U																		
Heptachlor epoxide	0.05	0.050	U																		
Endosulfan I	0.05	0.050	U																		
Dieldrin	0.10	0.10	U																		
4,4'-DDE	0.10	0.10	U																		
Endrin	0.10	0.10	U																		
Endosulfan II	0.10	0.10	U																		
4,4'-DDD	0.10	0.10	U																		
Endosulfan sulfate	0.10	0.10	U																		
4,4'-DDT	0.10	0.10	U																		
Methoxychlor	0.50	0.50	U																		
Endrin Ketone	0.10	0.10	U																		
Endrin Aldehyde	0.10	0.10	U																		
alpha-Chlordane	0.05	0.050	U																		
gamma-Chlordane	0.05	0.050	U																		
Toxaphene	5.00	5.0	U																		
Aroclor-1016	1.00	1.0	U																		
Aroclor-1221	1.00	2.0	U																		
Aroclor-1232	2.00	1.0	U																		
Aroclor-1242	1.00	1.0	U																		
Aroclor-1248	1.00	1.0	U																		
Aroclor-1254	1.00	1.0	U																		
Aroclor-1260	1.00	1.0	U																		

NV = Not Validated

9713520.0092
WHC-SD-EN-TI-200, Rev. 0

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																						
Laboratory: Roy F. Weston																						
Case	SDG: B08L25																					
Sample Number		B08L25		B08LD0																		
Location		199-K-20		199-K-20																		
Remarks				DUP																		
Sample Date		06/09/93		06/09/93																		
Extraction Date		06/14/93		06/14/93																		
Analysis Date		06/23/93		06/23/93																		
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U	0.050	U																
beta-BHC	0.05	0.050	U	0.050	U																
delta-BHC	0.05	0.050	U	0.050	U																
gamma-BHC (Lindane)	0.05	0.050	U	0.050	U																
Heptachlor	0.05	0.050	U	0.050	U																
Aldrin	0.05	0.050	U	0.050	U																
Heptachlor epoxide	0.05	0.050	U	0.050	U																
Endosulfan I	0.05	0.050	U	0.050	U																
Dieldrin	0.10	0.10	U	0.10	U																
4,4'-DDE	0.10	0.10	U	0.10	U																
Endrin	0.10	0.10	U	0.10	U																
Endosulfan II	0.10	0.10	U	0.10	U																
4,4'-DDD	0.10	0.10	U	0.10	U																
Endosulfan sulfate	0.10	0.10	U	0.10	U																
4,4'-DDT	0.10	0.10	U	0.10	U																
Methoxychlor	0.50	0.50	U	0.50	U																
Endrin Ketone	0.10	0.10	U	0.10	U																
Endrin Aldehyde	0.10	0.10	U	0.10	U																
alpha-Chlordane	0.05	0.050	U	0.050	U																
gamma-Chlordane	0.05	0.050	U	0.050	U																
Toxaphene	5.00	5.0	U	5.0	U																
Aroclor-1016	1.00	1.0	U	1.0	U																
Aroclor-1221	1.00	2.0	U	2.0	U																
Aroclor-1232	2.00	1.0	U	1.0	U																
Aroclor-1242	1.00	1.0	U	1.0	U																
Aroclor-1248	1.00	1.0	U	1.0	U																
Aroclor-1254	1.00	1.0	U	1.0	U																
Aroclor-1260	1.00	1.0	U	1.0	U																

DUP = Duplicate

9713520.0993
WHC-SD-EN-TI-200, Rev. 0

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Laboratory: Roy F. Weston																					
Case	SDG: B08L30																				
Sample Number		B08L30		B08L90		B08LB0		B08LC0													
Location		199-K-21		199-K-37		699-78-62		EB-1													
Remarks																					
Sample Date		06/25/93		06/26/93		06/26/93		06/26/93													
Extraction Date		07/01/93		07/01/93		07/01/93		07/01/93													
Analysis Date		07/14/93		07/13/93		07/13/93		07/13/93													
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U	0.050	U	0.050	UJ	0.050	UJ												
beta-BHC	0.05	0.050	U	0.050	U	0.050	UJ	0.050	UJ												
delta-BHC	0.05	0.050	U	0.050	U	0.050	UJ	0.050	UJ												
gamma-BHC (Lindane)	0.05	0.050	U	0.050	U	0.050	UJ	0.050	UJ												
Heptachlor	0.05	0.050	U	0.050	U	0.050	UJ	0.050	UJ												
Aldrin	0.05	0.050	U	0.050	U	0.050	UJ	0.050	UJ												
Heptachlor epoxide	0.05	0.050	U	0.050	U	0.050	UJ	0.050	UJ												
Endosulfan I	0.05	0.050	U	0.050	U	0.050	UJ	0.050	UJ												
Dieldrin	0.10	0.10	U	0.10	U	0.10	UJ	0.10	UJ												
4,4'-DDE	0.10	0.10	U	0.10	U	0.10	UJ	0.10	UJ												
Endrin	0.10	0.10	U	0.10	U	0.10	UJ	0.10	UJ												
Endosulfan II	0.10	0.10	U	0.10	U	0.10	UJ	0.10	UJ												
4,4'-DDD	0.10	0.10	U	0.10	U	0.10	UJ	0.10	UJ												
Endosulfan sulfate	0.10	0.10	U	0.10	U	0.10	UJ	0.10	UJ												
4,4'-DDT	0.10	0.10	U	0.10	U	0.10	UJ	0.10	UJ												
Methoxychlor	0.50	0.50	U	0.50	U	0.50	UJ	0.50	UJ												
Endrin Ketone	0.10	0.10	U	0.10	U	0.10	UJ	0.10	UJ												
Endrin Aldehyde	0.10	0.10	U	0.10	U	0.10	UJ	0.10	UJ												
alpha-Chlordane	0.05	0.050	U	0.050	U	0.050	UJ	0.050	UJ												
gamma-Chlordane	0.05	0.050	U	0.050	U	0.050	UJ	0.050	UJ												
Toxaphene	5.00	5.0	U	5.0	U	5.0	UJ	5.0	UJ												
Aroclor-1016	1.00	1.0	U	1.0	U	1.0	UJ	1.0	UJ												
Aroclor-1221	1.00	2.0	U	2.0	U	2.0	UJ	2.0	UJ												
Aroclor-1232	2.00	1.0	U	1.0	U	1.0	UJ	1.0	UJ												
Aroclor-1242	1.00	1.0	U	1.0	U	1.0	UJ	1.0	UJ												
Aroclor-1248	1.00	1.0	U	1.0	U	1.0	UJ	1.0	UJ												
Aroclor-1254	1.00	1.0	U	1.0	U	1.0	UJ	1.0	UJ												
Aroclor-1260	1.00	1.0	U	1.0	U	1.0	UJ	1.0	UJ												

EB = Equipment Blank

9713520.0004 WHC-SD-EN-TI-200, Rev. 0

ACCURACY DATA SUMMARY

SDG: B08L30	REVIEWER: DGC	DATE: 9/13/93	PAGE 1 OF 1	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08LB0	Tetrachloro-m-xylene	50	B08LB0	J
B08LC0	Tetrachloro-m-xylene	50	B08LC0	J

DATA QUALIFICATION SUMMARY

SDG: B08L30	REVIEWER: DGC	DATE: 9/13/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
All Pest/PCB Analytes	J	B08LB0, B08LC0	Low Surrogate Recoveries

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L35																				
Sample Number		B08L35																			
Location		199-K-22																			
Remarks		NV																			
Sample Date		06/08/93																			
Extraction Date		06/14/93																			
Analysis Date		06/22/93																			
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U																		
beta-BHC	0.05	0.050	U																		
delta-BHC	0.05	0.050	U																		
gamma-BHC (Lindane)	0.05	0.050	U																		
Heptachlor	0.05	0.050	U																		
Aldrin	0.05	0.050	U																		
Heptachlor epoxide	0.05	0.050	U																		
Endosulfan I	0.05	0.050	U																		
Dieldrin	0.10	0.10	U																		
4,4'-DDE	0.10	0.10	U																		
Endrin	0.10	0.10	U																		
Endosulfan II	0.10	0.10	U																		
4,4'-DDD	0.10	0.10	U																		
Endosulfan sulfate	0.10	0.10	U																		
4,4'-DDT	0.10	0.10	U																		
Methoxychlor	0.50	0.50	U																		
Endrin Ketone	0.10	0.10	U																		
Endrin Aldehyde	0.10	0.10	U																		
alpha-Chlordane	0.05	0.050	U																		
gamma-Chlordane	0.05	0.050	U																		
Toxaphene	5.00	5.0	U																		
Aroclor-1016	1.00	1.0	U																		
Aroclor-1221	1.00	2.0	U																		
Aroclor-1232	2.00	1.0	U																		
Aroclor-1242	1.00	1.0	U																		
Aroclor-1248	1.00	1.0	U																		
Aroclor-1254	1.00	1.0	U																		
Aroclor-1260	1.00	1.0	U																		

NV = Not Validated

9713520.0997
WHC-SD-EN-TI-200, Rev. 0

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L40																				
Sample Number		B08L40		B08LC5																	
Location		199-K-23		EB-2																	
Remarks																					
Sample Date		07/06/93		07/06/93																	
Extraction Date		07/12/93		07/12/93																	
Analysis Date		07/15/93		07/16/93																	
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	UJ	0.050	UJ																
beta-BHC	0.05	0.050	UJ	0.050	UJ																
delta-BHC	0.05	0.050	UJ	0.050	UJ																
gamma-BHC (Lindane)	0.05	0.050	UJ	0.050	UJ																
Heptachlor	0.05	0.050	UJ	0.050	UJ																
Aldrin	0.05	0.050	UJ	0.050	UJ																
Heptachlor epoxide	0.05	0.050	UJ	0.050	UJ																
Endosulfan I	0.05	0.050	UJ	0.050	UJ																
Dieldrin	0.10	0.10	UJ	0.10	UJ																
4,4'-DDE	0.10	0.10	UJ	0.10	UJ																
Endrin	0.10	0.10	UJ	0.10	UJ																
Endosulfan II	0.10	0.10	UJ	0.10	UJ																
4,4'-DDD	0.10	0.10	UJ	0.10	UJ																
Endosulfan sulfate	0.10	0.10	UJ	0.10	UJ																
4,4'-DDT	0.10	0.10	UJ	0.10	UJ																
Methoxychlor	0.50	0.50	UJ	0.50	UJ																
Endrin Ketone	0.10	0.10	UJ	0.10	UJ																
Endrin Aldehyde	0.10	0.10	UJ	0.10	UJ																
alpha-Chlordane	0.05	0.050	UJ	0.050	UJ																
gamma-Chlordane	0.05	0.050	UJ	0.050	UJ																
Toxaphene	5.00	5.0	UJ	5.0	UJ																
Aroclor-1016	1.00	1.0	UJ	1.0	UJ																
Aroclor-1221	1.00	2.0	UJ	2.0	UJ																
Aroclor-1232	2.00	1.0	UJ	1.0	UJ																
Aroclor-1242	1.00	1.0	UJ	1.0	UJ																
Aroclor-1248	1.00	1.0	UJ	1.0	UJ																
Aroclor-1254	1.00	1.0	UJ	1.0	UJ																
Aroclor-1260	1.00	1.0	UJ	1.0	UJ																

EB = Equipment Blank

9713520.0998
WHC-SD-EN-TI-200, Rev. 0

ACCURACY DATA SUMMARY

SDG: B08L40	REVIEWER: CH	DATE: 9/20/93	PAGE 1 OF 1	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08L40	Tetrachloro-m-xylene	55	B08L40	J
B08LC5	Tetrachloro-m-xylene	55	B08LC5	J

9713520.0999

DATA QUALIFICATION SUMMARY

SDG: B08L40	REVIEWER: CH	DATE: 9/20/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
All pest/PCB analytes	J	B08L40, B08LC5	Low surrogate recoveries

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L50																				
Sample Number		B08L50																			
Location		199-K-30																			
Remarks		NV																			
Sample Date		06/03/93																			
Extraction Date		06/10/93																			
Analysis Date		06/17/93																			
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U																		
beta-BHC	0.05	0.050	U																		
delta-BHC	0.05	0.050	U																		
gamma-BHC (Lindane)	0.05	0.050	U																		
Heptachlor	0.05	0.050	U																		
Aldrin	0.05	0.050	U																		
Heptachlor epoxide	0.05	0.050	U																		
Endosulfan I	0.05	0.050	U																		
Dieldrin	0.10	0.10	U																		
4,4'-DDE	0.10	0.10	U																		
Endrin	0.10	0.10	U																		
Endosulfan II	0.10	0.10	U																		
4,4'-DDD	0.10	0.10	U																		
Endosulfan sulfate	0.10	0.10	U																		
4,4'-DDT	0.10	0.10	U																		
Methoxychlor	0.50	0.50	U																		
Endrin Ketone	0.10	0.10	U																		
Endrin Aldehyde	0.10	0.10	U																		
alpha-Chlordane	0.05	0.050	U																		
gamma-Chlordane	0.05	0.050	U																		
Toxaphene	5.00	5.0	U																		
Aroclor-1016	1.00	1.0	U																		
Aroclor-1221	1.00	2.0	U																		
Aroclor-1232	2.00	1.0	U																		
Aroclor-1242	1.00	1.0	U																		
Aroclor-1248	1.00	1.0	U																		
Aroclor-1254	1.00	1.0	U																		
Aroclor-1260	1.00	1.0	U																		

NV = Not Validated

9713520.1001 WHC-SD-EN-TI-200, Rev. 0

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L55																				
Sample Number		B08L55		B08LB5		B08LD5															
Location		199-K-31		699-73-61		699-73-61															
Remarks						DUP															
Sample Date		06/16/93		06/17/93		06/17/93															
Extraction Date		06/23/93		06/23/93		06/23/93															
Analysis Date		06/29/93		06/29/93		06/29/93															
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U	0.050	UJ	0.050	U														
beta-BHC	0.05	0.050	U	0.050	UJ	0.050	U														
delta-BHC	0.05	0.050	U	0.050	UJ	0.050	U														
gamma-BHC (Lindane)	0.05	0.050	U	0.050	UJ	0.050	U														
Heptachlor	0.05	0.050	U	0.050	UJ	0.050	U														
Aldrin	0.05	0.050	U	0.050	UJ	0.050	U														
Heptachlor epoxide	0.05	0.050	U	0.050	UJ	0.050	U														
Endosulfan I	0.05	0.050	U	0.050	UJ	0.050	U														
Dieldrin	0.10	0.10	U	0.10	UJ	0.10	U														
4,4'-DDE	0.10	0.10	U	0.10	UJ	0.10	U														
Endrin	0.10	0.10	U	0.10	UJ	0.10	U														
Endosulfan II	0.10	0.10	U	0.10	UJ	0.10	U														
4,4'-DDD	0.10	0.10	U	0.10	UJ	0.10	U														
Endosulfan sulfate	0.10	0.10	U	0.10	UJ	0.10	U														
4,4'-DDT	0.10	0.10	U	0.10	UJ	0.10	U														
Methoxychlor	0.50	0.50	U	0.50	UJ	0.50	U														
Endrin Ketone	0.10	0.10	U	0.10	UJ	0.10	U														
Endrin Aldehyde	0.10	0.10	U	0.10	UJ	0.10	U														
alpha-Chlordane	0.05	0.050	U	0.050	UJ	0.050	U														
gamma-Chlordane	0.05	0.050	U	0.050	UJ	0.050	U														
Toxaphene	5.00	5.0	U	5.0	UJ	5.0	U														
Aroclor-1016	1.00	1.0	U	1.0	UJ	1.0	U														
Aroclor-1221	1.00	2.0	U	2.0	UJ	2.0	U														
Aroclor-1232	2.00	1.0	U	1.0	UJ	1.0	U														
Aroclor-1242	1.00	1.0	U	1.0	UJ	1.0	U														
Aroclor-1248	1.00	1.0	U	1.0	UJ	1.0	U														
Aroclor-1254	1.00	1.0	U	1.0	UJ	1.0	U														
Aroclor-1260	1.00	1.0	U	1.0	UJ	1.0	U														

DUP = Duplicate

9713520.1002
WHC-SD-EN-TI-200, Rev. 0

ACCURACY DATA SUMMARY

SDG: B08L55	REVIEWER: KG	DATE: 9/12/93	PAGE 1 OF 1	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08LB5	Tetrachloro-m-xylene	55	B08LB5	J

9713520.1003

DATA QUALIFICATION SUMMARY

SDG: B08L55	REVIEWER: KG	DATE: 9/12/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
All Pest/PCB Analytes	J	B08LB5	Low Surrogate Recovery

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L60																				
Sample Number		B08L60																			
Location		199-K-32A																			
Remarks																					
Sample Date		06/14/93																			
Extraction Date		06/18/93																			
Analysis Date		06/23/93																			
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U																		
beta-BHC	0.05	0.050	U																		
delta-BHC	0.05	0.050	U																		
gamma-BHC (Lindane)	0.05	0.050	U																		
Heptachlor	0.05	0.050	U																		
Aldrin	0.05	0.050	U																		
Heptachlor epoxide	0.05	0.050	U																		
Endosulfan I	0.05	0.050	U																		
Dieldrin	0.10	0.10	U																		
4,4'-DDE	0.10	0.10	U																		
Endrin	0.10	0.10	U																		
Endosulfan II	0.10	0.10	U																		
4,4'-DDD	0.10	0.10	U																		
Endosulfan sulfate	0.10	0.10	U																		
4,4'-DDT	0.10	0.10	U																		
Methoxychlor	0.50	0.50	U																		
Endrin Ketone	0.10	0.10	U																		
Endrin Aldehyde	0.10	0.10	U																		
alpha-Chlordane	0.05	0.050	U																		
gamma-Chlordane	0.05	0.050	U																		
Toxaphene	5.00	5.0	U																		
Aroclor-1016	1.00	1.0	U																		
Aroclor-1221	1.00	2.0	U																		
Aroclor-1232	2.00	1.0	U																		
Aroclor-1242	1.00	1.0	U																		
Aroclor-1248	1.00	1.0	U																		
Aroclor-1254	1.00	1.0	U																		
Aroclor-1260	1.00	1.0	U																		

9713520.1005
WHC-SD-EN-TI-200, Rev. 0

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L65																				
Sample Number		B08L65																			
Location		199-K-32B																			
Remarks		NV																			
Sample Date		07/07/93																			
Extraction Date		07/12/93																			
Analysis Date		07/16/93																			
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U																		
beta-BHC	0.05	0.050	U																		
delta-BHC	0.05	0.050	U																		
gamma-BHC (Lindane)	0.05	0.050	U																		
Heptachlor	0.05	0.050	U																		
Aldrin	0.05	0.050	U																		
Heptachlor epoxide	0.05	0.050	U																		
Endosulfan I	0.05	0.050	U																		
Dieldrin	0.10	0.10	U																		
4,4'-DDE	0.10	0.10	U																		
Endrin	0.10	0.10	U																		
Endosulfan II	0.10	0.10	U																		
4,4'-DDD	0.10	0.10	U																		
Endosulfan sulfate	0.10	0.10	U																		
4,4'-DDT	0.10	0.10	U																		
Methoxychlor	0.50	0.50	U																		
Endrin Ketone	0.10	0.10	U																		
Endrin Aldehyde	0.10	0.10	U																		
alpha-Chlordane	0.05	0.050	U																		
gamma-Chlordane	0.05	0.050	U																		
Toxaphene	5.00	5.0	U																		
Aroclor-1016	1.00	1.0	U																		
Aroclor-1221	1.00	2.0	U																		
Aroclor-1232	2.00	1.0	U																		
Aroclor-1242	1.00	1.0	U																		
Aroclor-1248	1.00	1.0	U																		
Aroclor-1254	1.00	1.0	U																		
Aroclor-1260	1.00	1.0	U																		

NV = Not Validated

9713520.1006

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L70																				
Sample Number		B08L70																			
Location		199-K-33																			
Remarks		NV																			
Sample Date		06/10/93																			
Extraction Date		06/15/93																			
Analysis Date		06/17/93																			
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U																		
beta-BHC	0.05	0.050	U																		
delta-BHC	0.05	0.050	U																		
gamma-BHC (Lindane)	0.05	0.050	U																		
Heptachlor	0.05	0.050	U																		
Aldrin	0.05	0.050	U																		
Heptachlor epoxide	0.05	0.050	U																		
Endosulfan I	0.05	0.050	U																		
Dieldrin	0.10	0.10	U																		
4,4'-DDE	0.10	0.10	U																		
Endrin	0.10	0.10	U																		
Endosulfan II	0.10	0.10	U																		
4,4'-DDD	0.10	0.10	U																		
Endosulfan sulfate	0.10	0.10	U																		
4,4'-DDT	0.10	0.10	U																		
Methoxychlor	0.50	0.50	U																		
Endrin Ketone	0.10	0.10	U																		
Endrin Aldehyde	0.10	0.10	U																		
alpha-Chlordane	0.05	0.050	U																		
gamma-Chlordane	0.05	0.050	U																		
Toxaphene	5.00	5.0	U																		
Aroclor-1016	1.00	1.0	U																		
Aroclor-1221	1.00	2.0	U																		
Aroclor-1232	2.00	1.0	U																		
Aroclor-1242	1.00	1.0	U																		
Aroclor-1248	1.00	1.0	U																		
Aroclor-1254	1.00	1.0	U																		
Aroclor-1260	1.00	1.0	U																		

NV = Not Validated

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L75																				
Sample Number		B08L75																			
Location		199-K-34																			
Remarks		NV																			
Sample Date		06/01/93																			
Extraction Date		06/07/93																			
Analysis Date		06/13/93																			
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U																		
beta-BHC	0.05	0.050	U																		
delta-BHC	0.05	0.050	U																		
gamma-BHC (Lindane)	0.05	0.050	U																		
Heptachlor	0.05	0.050	U																		
Aldrin	0.05	0.050	U																		
Heptachlor epoxide	0.05	0.050	U																		
Endosulfan I	0.05	0.050	U																		
Dieldrin	0.10	0.10	U																		
4,4'-DDE	0.10	0.10	U																		
Endrin	0.10	0.10	U																		
Endosulfan II	0.10	0.10	U																		
4,4'-DDD	0.10	0.10	U																		
Endosulfan sulfate	0.10	0.10	U																		
4,4'-DDT	0.10	0.10	U																		
Methoxychlor	0.50	0.50	U																		
Endrin Ketone	0.10	0.10	U																		
Endrin Aldehyde	0.10	0.10	U																		
alpha-Chlordane	0.05	0.050	U																		
gamma-Chlordane	0.05	0.050	U																		
Toxaphene	5.00	5.0	U																		
Aroclor-1016	1.00	1.0	U																		
Aroclor-1221	1.00	2.0	U																		
Aroclor-1232	2.00	1.0	U																		
Aroclor-1242	1.00	1.0	U																		
Aroclor-1248	1.00	1.0	U																		
Aroclor-1254	1.00	1.0	U																		
Aroclor-1260	1.00	1.0	U																		

NV = Not Validated

9713520.1008
WHC-SD-EN-TI-200, Rev. 0

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L80																				
Sample Number		B08L80		B08L85																	
Location		199-K-35		199-K-36																	
Remarks		NV																			
Sample Date		06/02/93		06/02/93																	
Extraction Date		06/07/93		06/07/93																	
Analysis Date		06/13/93		06/13/93																	
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U	0.050	U																
beta-BHC	0.05	0.050	U	0.050	U																
delta-BHC	0.05	0.050	U	0.050	U																
gamma-BHC (Lindane)	0.05	0.050	U	0.050	U																
Heptachlor	0.05	0.050	U	0.050	U																
Aldrin	0.05	0.050	U	0.050	U																
Heptachlor epoxide	0.05	0.050	U	0.050	U																
Endosulfan I	0.05	0.050	U	0.050	U																
Dieldrin	0.10	0.10	U	0.10	U																
4,4'-DDE	0.10	0.10	U	0.10	U																
Endrin	0.10	0.10	U	0.10	U																
Endosulfan II	0.10	0.10	U	0.10	U																
4,4'-DDD	0.10	0.10	U	0.10	U																
Endosulfan sulfate	0.10	0.10	U	0.10	U																
4,4'-DDT	0.10	0.10	U	0.10	U																
Methoxychlor	0.50	0.50	U	0.50	U																
Endrin Ketone	0.10	0.10	U	0.10	U																
Endrin Aldehyde	0.10	0.10	U	0.10	U																
alpha-Chlordane	0.05	0.050	U	0.050	U																
gamma-Chlordane	0.05	0.050	U	0.050	U																
Toxaphene	5.00	5.0	U	5.0	U																
Aroclor-1016	1.00	1.0	U	1.0	U																
Aroclor-1221	1.00	2.0	U	2.0	U																
Aroclor-1232	2.00	1.0	U	1.0	U																
Aroclor-1242	1.00	1.0	U	1.0	U																
Aroclor-1248	1.00	1.0	U	1.0	U																
Aroclor-1254	1.00	1.0	U	1.0	U																
Aroclor-1260	1.00	1.0	U	1.0	U																

NV = Not Validated

9713520.1009
WHC-SD-EN-TI-200, Rev. 0

PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																							
Laboratory: Roy F. Weston																							
Case	SDG: B08L95																						
Sample Number		B08L95																					
Location		699-70-68																					
Remarks		NV																					
Sample Date		06/18/93																					
Extraction Date		06/23/93																					
Analysis Date		06/30/93																					
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U																				
beta-BHC	0.05	0.050	U																				
delta-BHC	0.05	0.050	U																				
gamma-BHC (Lindane)	0.05	0.050	U																				
Heptachlor	0.05	0.050	U																				
Aldrin	0.05	0.050	U																				
Heptachlor epoxide	0.05	0.050	U																				
Endosulfan I	0.05	0.050	U																				
Dieldrin	0.10	0.10	U																				
4,4'-DDE	0.10	0.10	U																				
Endrin	0.10	0.10	U																				
Endosulfan II	0.10	0.10	U																				
4,4'-DDD	0.10	0.10	U																				
Endosulfan sulfate	0.10	0.10	U																				
4,4'-DDT	0.10	0.10	U																				
Methoxychlor	0.50	0.50	U																				
Endrin Ketone	0.10	0.10	U																				
Endrin Aldehyde	0.10	0.10	U																				
alpha-Chlordane	0.05	0.050	U																				
gamma-Chlordane	0.05	0.050	U																				
Toxaphene	5.00	5.0	U																				
Aroclor-1016	1.00	1.0	U																				
Aroclor-1221	1.00	2.0	U																				
Aroclor-1232	2.00	1.0	U																				
Aroclor-1242	1.00	1.0	U																				
Aroclor-1248	1.00	1.0	U																				
Aroclor-1254	1.00	1.0	U																				
Aroclor-1260	1.00	1.0	U																				

NV = Not Validated

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PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: TMA																					
Case	SDG: B08LF0																				
Sample Number		B08LF0																			
Location		199-K-20																			
Remarks		Split																			
Sample Date		06/09/93																			
Extraction Date		06/16/93																			
Analysis Date		07/22/93																			
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U																		
beta-BHC	0.05	0.050	U																		
delta-BHC	0.05	0.050	U																		
gamma-BHC (Lindane)	0.05	0.050	U																		
Heptachlor	0.05	0.050	U																		
Aldrin	0.05	0.050	U																		
Heptachlor epoxide	0.05	0.050	U																		
Endosulfan I	0.05	0.050	U																		
Dieldrin	0.10	0.10	U																		
4,4'-DDE	0.10	0.10	U																		
Endrin	0.10	0.10	U																		
Endosulfan II	0.10	0.10	U																		
4,4'-DDD	0.10	0.10	U																		
Endosulfan sulfate	0.10	0.10	U																		
4,4'-DDT	0.10	0.10	U																		
Methoxychlor	0.50	0.50	U																		
Endrin Ketone	0.10	0.10	U																		
Endrin Aldehyde	0.10	0.10	U																		
alpha-Chlordane	0.05	0.050	U																		
gamma-Chlordane	0.05	0.050	U																		
Toxaphene	5.00	5.0	U																		
Aroclor-1016	1.00	1.0	U																		
Aroclor-1221	1.00	2.0	U																		
Aroclor-1232	2.00	1.0	U																		
Aroclor-1242	1.00	1.0	U																		
Aroclor-1248	1.00	1.0	U																		
Aroclor-1254	1.00	1.0	U																		
Aroclor-1260	1.00	1.0	U																		

9713520.1011
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PESTICIDE/PCB ORGANIC ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: TMA																					
Case	SDG: B08LF4																				
Sample Number		B08LF4																			
Location		699-73-61																			
Remarks		Split																			
Sample Date		06/17/93																			
Extraction Date		06/22/93																			
Analysis Date		07/22/93																			
Pesticide/PCB	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
alpha-BHC	0.05	0.050	U																		
beta-BHC	0.05	0.050	U																		
delta-BHC	0.05	0.050	U																		
gamma-BHC (Lindane)	0.05	0.050	U																		
Heptachlor	0.05	0.050	U																		
Aldrin	0.05	0.050	U																		
Heptachlor epoxide	0.05	0.050	U																		
Endosulfan I	0.05	0.050	U																		
Dieldrin	0.10	0.10	U																		
4,4'-DDE	0.10	0.10	U																		
Endrin	0.10	0.10	U																		
Endosulfan II	0.10	0.10	U																		
4,4'-DDD	0.10	0.10	U																		
Endosulfan sulfate	0.10	0.10	U																		
4,4'-DDT	0.10	0.10	U																		
Methoxychlor	0.50	0.50	U																		
Endrin Ketone	0.10	0.10	U																		
Endrin Aldehyde	0.10	0.10	U																		
alpha-Chlordane	0.05	0.050	U																		
gamma-Chlordane	0.05	0.050	U																		
Toxaphene	5.00	5.0	U																		
Aroclor-1016	1.00	1.0	U																		
Aroclor-1221	1.00	2.0	U																		
Aroclor-1232	2.00	1.0	U																		
Aroclor-1242	1.00	1.0	U																		
Aroclor-1248	1.00	1.0	U																		
Aroclor-1254	1.00	1.0	U																		
Aroclor-1260	1.00	1.0	U																		

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WELL AND SAMPLE INFORMATION					SAMPLE LOCATION INFORMATION
SAMPLE LOCATION	SAMPLE NUMBER	MATRIX	DATE SAMPLED	NV/V	INORGANICS
199-K-11	B08L05	W	06/04/93	NV	5-11
	B08L06	W	06/04/93	NV	5-11
199-K-13	B08L10	W	07/08/93	NV	5-12
	B09L11	W	07/08/93	NV	5-12
199-K-18	B08L15	W	06/07/93	NV	5-13
	B08L16	W	06/07/93	NV	5-13
199-K-19	B08L20	W	06/15/93	NV	5-14
	B08L21	W	06/15/93	NV	5-14
199-K-20	B08L25	W	06/09/93	V	5-15
	B08L26	W	06/09/93	V	5-15
	B08LD0	W	06/09/93	V	5-15
	B08LD1	W	06/09/93	V	5-15
	B08LF0	W	06/09/93	V	5-46
	B08LF1	W	06/09/93	V	5-50
199-K-21	B08L30	W	06/25/93	V	5-20
	B08L31	W	06/25/93	V	5-20
199-K-22	B08L35	W	06/08/93	NV	5-24
	B08L36	W	06/08/93	NV	5-24
199-K-23	B08L40	W	07/06/93	V	5-25
	B08L41	W	07/06/93	V	5-25
199-K-27	B08L45	W	06/04/93	NV	5-11
	B08L46	W	06/04/93	NV	5-11
199-K-30	B08L50	W	06/03/93	NV	5-30
	B08L51	W	06/03/93	NV	5-30
199-K-31	B08L55	W	06/16/93	V	5-31
	B08L56	W	06/16/93	V	5-31
199-K-32A	B08L60	W	06/14/93	V	5-36
	B08L61	W	06/14/93	V	5-36
199-K-32B	B08L65	W	07/07/93	NV	5-41
	B08L66	W	07/07/93	NV	5-41
199-K-33	B08L70	W	06/10/93	NV	5-42
	B08L71	W	06/10/93	NV	5-42
199-K-34	B08L75	W	06/01/93	NV	5-43
	B08L76	W	06/01/93	NV	5-43

WELL AND SAMPLE INFORMATION					SAMPLE LOCATION INFORMATION
SAMPLE LOCATION	SAMPLE NUMBER	MATRIX	DATE SAMPLED	NV/V	INORGANICS
199-K-35	B08L80	W	06/02/93	NV	5-44
	B08L81	W	06/02/93	NV	5-44
199-K-36	B08L85	W	06/02/93	NV	5-44
	B08L86	W	06/02/93	NV	5-44
199-K-37	B08L90	W	06/26/93	V	5-20
	B08L91	W	06/26/93	V	5-20
699-70-68	B08L95	W	06/18/93	NV	5-45
	B08L96	W	06/18/93	NV	5-45
699-78-62	B08LB0	W	06/26/93	V	5-20
	B08LB1	W	06/26/93	V	5-20
699-73-61	B08LB5	W	06/17/93	V	5-31
	B08LB6	W	06/17/93	V	5-31
	B08LD5	W	06/17/93	V	5-31
	B08LD6	W	06/17/93	V	5-31
	B08LF4	W	06/17/93	V	5-54
	B08LF5	W	06/17/93	V	5-58
EB-1	B08LC0	W	06/26/93	V	5-20
	B08LC1	W	06/26/93	V	5-20
EB-2	B08LC5	W	07/06/93	V	5-25
	B08LC6	W	07/06/93	V	5-25

5.0 INORGANIC DATA VALIDATION

5.1 DATA PACKAGE COMPLETENESS

The following data packages (SDG Nos.) were submitted for validation and checked for completeness:

B08L25	B08L40	B08L60	B08LF1	B08LF5
B08L30	B08L55	B08LF0	B08LF4	

5.2 HOLDING TIMES

Analytical holding times for ICP metals, GFAA metals and CVAA mercury analyses were assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: samples must be analyzed within 28 days for mercury, 14 days for cyanide and within six months for all other metals.

All holding time requirements for all analytes in all data packages reviewed were met.

5.3 INSTRUMENT PERFORMANCE AND CALIBRATIONS

Performance of specific instrument quality assurance and quality control procedures, including deficiencies noted during the quality assurance review, are outlined below.

Three calibration standards and a blank were analyzed for arsenic, lead, selenium and thallium by GFAA. The correlation coefficient of a least squares linear regression met the requirements for calibration in all cases.

Up to five calibration standards and a blank were analyzed for mercury by CVAA. The correlation coefficient of a least squares linear regression met the requirements for calibration.

At least one standard and a blank were analyzed by ICP for all other elements.

The above calibrations were each immediately verified with an ICV standard and a calibration blank. The ICV was prepared from a source independent of the calibration standards, at a mid-calibration range concentration. The ICV percent recovery must fall within the control limits of 90 to 110 percent for metals analyzed by ICP and GFAA, and 80 to 120 percent for mercury. Calibration linearity near the detection limit was

verified with a standard prepared at a concentration near the CRDL.

The ICVs met the recommended control limits in all cases.

The calibrations were subsequently verified at regular intervals using a CCV standard. The control windows for percent recovery of CCV standards are the same as the ICV windows described above.

The CCVs met the recommended control limits in all cases.

A midpoint standard distillation was not performed for the cyanide analysis and the associated results were, therefore, qualified as estimates and flagged "J" for the following samples:

- Sample numbers B08L25 and B08LD0 in SDG No. B08L25.
- Sample numbers B08L30, B08L90, B08LB0 and B08LC0 in SDG No. B08L30.
- Sample numbers B08L55, B08LB5 and B08LD5 in SDG No. B08L55.
- Sample number B08L60 in SDG No. B08L60.

5.3.1 ICP Calibration

An ICS was analyzed at the beginning and end of each ICP sample run to verify the laboratory interelement and background correction factors. Results for the ICS solution must fall within the control limit of ±20 percent of the true value.

A five-fold serial dilution is required for all elements analyzed by ICP. The subsequent concentrations of the reanalysis are compared with the original analysis. If the analyte concentration is sufficiently high (a minimum factor of 50 above the IDL) then the serial dilution must agree within 10% of the original determination after correction for dilution.

The ICS has been analyzed at the proper frequency and all ICSAB solution percent recovery values fell within the control limit.

5.3.2 Atomic Absorption Calibrations

Duplicate injections are required for all GFAA analyses. The duplicate injections establish the precision of the individual analytical determinations. For sample concentrations greater than the CRDL, duplicate injections must agree within ±20 percent RSD or CV. The AA calibration results are discussed further in Section 5.7 of this report.

5.4 BLANKS

Samples with digestate concentrations (in ug/L) of less than five times (<5x) the highest amount found in any of the associated blanks have had their associated values qualified as non-detected (U). Samples with concentrations of greater than five times (>5x) the highest amount found in any of the associated blanks do not require qualification.

Due to the presence of laboratory blank contamination, the following sample was flagged "U" for aluminum:

- Sample number B08LF1 in SDG No. B08LF1.

Due to the presence of laboratory blank contamination, the following samples were flagged "U" for barium:

- All samples in SDG No. B08L55.

Due to the presence of laboratory blank contamination, the following samples were flagged "U" for beryllium:

- Sample numbers B08L26 and B08LD1 in SDG No. B08L25.

Due to the presence of laboratory blank contamination, the following samples were flagged "U" for iron:

- Sample numbers B08L25 and B08LD0 in SDG No. B08L25.
- Sample numbers B08L90 and B08LB0 in SDG No. B08L30.
- Sample numbers B08L55 and B08LD5 in SDG No. B08L55.
- Sample number B08L61 in SDG No. B08L60.
- Sample number B08LF4 in SDG No. B08LF4.
- Sample number B08LF5 in SDG No. B08LF5.

Due to the presence of laboratory blank contamination, the following sample was flagged "U" for lead:

- Sample number B08L26 in SDG No. B08L25.

Due to the presence of laboratory blank contamination, the following samples were flagged "U" for manganese:

- Sample numbers B08LB5, B08LB6, B08LD5 and B08LD6 in SDG No. B08L55.

Due to the presence of laboratory blank contamination, the following sample was flagged "U" for mercury:

- Sample number B08LF4 in SDG No. B08LF4.

- Sample number B08LF5 in SDG No. B08LF5.

Due to the presence of laboratory blank contamination, the following sample was flagged "U" for sodium:

- Sample number B08LC6 in SDG No. B08L40.

Due to the presence of laboratory blank contamination, the following samples were flagged "U" for vanadium:

- All samples in SDG No. B08L25.
- Sample numbers B08L60 and B08L61 in SDG No. B08L60.

Due to the presence of laboratory blank contamination, the following samples were flagged "U" for zinc:

- All samples in SDG No. B08L25.
- Sample numbers B08L30, B08L31, B08L90, B08L91, B08LB1, B08LC0 and B08LC1 in SDG No. B08L30.
- Sample numbers B08L55, B08L56, B08LB6 and B08LD6 in SDG No. B08L55.
- Sample numbers B08L60 and B08L61 in SDG No. B08L60.
- Sample number B08LF0 in SDG No. B08LF0.

All other laboratory blank results were acceptable.

5.5 ACCURACY

5.5.1 Matrix Spike Recovery

Matrix spike analyses are used to assess the analytical accuracy of the reported data and the effect of the matrix on the ability to accurately quantify sample concentrations. Matrix spike recoveries must generally fall within the range of 75 to 125 percent. Samples with a spike recovery of less than 30% and a sample value below the IDL were rejected and flagged "R". All other samples with a spike recovery outside the QC limits are qualified as estimates and flagged "J".

The matrix spike recovery fell outside the QC limits and the associated results flagged "J" for arsenic in the following samples:

- All samples in SDG No. B08L40.

The matrix spike recovery fell outside the QC limits and the associated results flagged "J" for cadmium in the following samples:

- All samples in SDG No. B08L25.

The matrix spike recovery fell outside the QC limits and the associated results flagged "J" for iron in the following sample:

- Sample number B08L40 in SDG No. B08L40.

The matrix spike recovery fell outside the QC limits and the associated results flagged "J" for lead in the following samples:

- All samples in SDG No. B08L40.
- Sample numbers B08L60 and B08L61 in SDG No. B08L60.

The matrix spike recovery fell outside the QC limits and the associated results flagged "J" for selenium in the following samples:

- Sample numbers B08LD0 and B08LD1 in SDG No. B08L25.
- Sample number B08LF0 in SDG No. B08LF0.
- Sample number B08LF1 in SDG No. B08LF1.

The matrix spike recovery fell outside the QC limits and the associated results flagged "J" for silver in the following samples:

- All samples in SDG No. B08L40.

The matrix spike recovery fell outside the QC limits and the associated results flagged "J" for thallium in the following samples:

- Sample number B08LF1 in SDG No. B08LF1.

The matrix spike recovery fell well below the QC limits and the associated results rejected and flagged "R" for selenium in the following samples:

- Sample numbers B08L25 and B08L26 in SDG No. B08L25.

All other matrix spike recovery results were acceptable.

5.5.2 Laboratory Control Sample Recovery

The LCS monitors the overall performance of the analysis, including the sample preparation. An LCS should be digested or distilled and analyzed with every group of samples which have been prepared together. The performance criteria for solid LCS

samples are established through interlaboratory studies coordinated by a certifying agency (e.g., EPA or an independent commercial supplier).

One liquid LCS was digested and analyzed for each of the cases in this report that contained water samples. The results were compared against the control limit of 80-120% as required by the EPA CLP SOW 3/90 protocol and found to be acceptable.

All LCSW results were found to be acceptable.

5.6 PRECISION

5.6.1 Laboratory Duplicate Samples

The laboratory duplicate results measures the precision of the method by measuring a second aliquot of the sample that is treated the same way as the original. Samples whose precision fell outside the quality control requirements were flagged as estimates "J".

The laboratory duplicate RPD results were above QC limits and the associated results flagged "J" for aluminum in all samples in SDG No. B08L40.

The laboratory duplicate RPD results were above QC limits and the associated results flagged "J" for cadmium in all samples in SDG No. B08L25.

The laboratory duplicate RPD results were above QC limits and the associated results flagged "J" for calcium in all samples in SDG No. B08L40 and B08L55.

The laboratory duplicate RPD results were above QC limits and the associated results flagged "J" for chromium in all samples in SDG No. B08L40.

The laboratory duplicate RPD results were above QC limits and the associated results flagged "J" for iron in all samples in SDG No. B08L40.

The laboratory duplicate RPD results were above QC limits and the associated results flagged "J" for lead in all samples in SDG No. B08L40.

The laboratory duplicate RPD results were above QC limits and the associated results flagged "J" for manganese in all samples in SDG No. B08L40.

The laboratory duplicate RPD results were above QC limits and the associated results flagged "J" for sodium in all samples in SDG No. B08L40.

The laboratory duplicate RPD results were above QC limits and the associated results flagged "J" for selenium in all samples in SDG No. B08L25.

The laboratory duplicate RPD results were above QC limits and the associated results flagged "J" for zinc in all samples in SDG No. B08L55.

All other laboratory duplicate recovery results were acceptable.

5.6.2 ICP Serial Dilution

The ICP serial dilution is used to determine whether significant physical or chemical interferences exist due to sample matrix. If sample concentration is ≥50 times the IDL for an analyte and the %D is outside the control limits the associated data must be qualified as estimates "J".

The ICP serial dilution results were outside the control limits and the associated results flagged "J" for calcium in all samples in SDG No. B08L55.

The ICP serial dilution results were outside the control limits and the associated results flagged "J" for magnesium in all samples in SDG No. B08L55 and SDG No. B08L60.

The ICP serial dilution results were outside the control limits and the associated results flagged "J" for sodium in all samples in SDG No. B08L55 and SDG No. B08L60.

All other ICP serial dilution results were acceptable.

5.6.3 Total and Dissolved Sample Analysis

Inorganics parameters included the analysis of the total as well as dissolved samples. Total samples include particulate and dissolved fractions while dissolved samples are first filtered prior to preparation. The purpose of the analysis is to determine what metals are inherent in the particulate matter found in the aqueous sample.

Since Westinghouse Validation Guidelines do not address this issue, the total and dissolved samples are presented in the report, and no judgement on the data was made.

Below is a table of the total and dissolved samples which were validated.

Total	Dissolved
B08L25	B08L26
B08L30	B08L31
B08L40	B08L41
B08L55	B08L56
B08L60	B08L61
B08L90	B08L91
B08LB0	B08LB1
B08LB5	B08LB6
B08LC0	B08LC1
B08LC5	B08LC6
B08LD0	B08LD1
B08LD5	B08LD6
B08LF0	B08LF1
B08LF4	B08LF5

5.7 FURNACE AA QUALITY CONTROL

The post-digestion analytical spike is analyzed to determine the extent of interference in the digestate matrix. When the results of the analytical spike analyses exceeds the control window of 85 to 115 percent recovery and the absorbance of the sample is greater than fifty percent of the analytical spike absorbance, then the sample must be reanalyzed using the MSA. The duplicate injections and the analytical spike recoveries establish the precision and accuracy of the individual GFAA determinations.

5.7.1 Duplicate Injections

Each furnace analysis requires a minimum of two injections (burns), except for full Method of Standard Addition (MSA). For concentrations greater than CRDL, the duplicate injection readings must agree within 50% relative standard deviation (RSD) or coefficient of variation (CV). If these requirements are not

met, the analytical sample must be rerun once (i.e., two additional burns). If the readings are then still outside the QC limits, the result is qualified as an estimate and flagged "J".

All duplicate injection quality control requirements were met.

5.7.2 Analytical Spike Recoveries

For all samples whose analytical spike results are outside the 85 to 115 percent control limit, but whose absorbances are less than 50 percent of the analytical spike absorbance, the samples were flagged as estimates "J". In cases where the analytical spike recovery was 0.0 percent, the results were rejected and flagged "R".

The analytical spike recovery fell outside the established QC limits and the associated results flagged "J" for arsenic in the following samples:

- Sample numbers B08L40 and B08L41 in SDG No. B08L40.
- Sample number B08LD6 in SDG No. B08L55.

The analytical spike recovery fell outside the established QC limits and the associated results flagged "J" for lead in the following samples:

- Sample numbers B08L25 and B08L26 in SDG No. B08L25.
- Sample number B08LB1 in SDG No. B08L30.
- All samples in SDG No. B08L40.
- Sample numbers B08L60 and B08L61 in SDG No. B08L60.

The analytical spike recovery fell outside the established QC limits and the associated results flagged "J" for selenium in the following samples:

- Sample numbers B08L26 and B08LD1 in SDG No. B08L25.
- Sample number B08L30 in SDG No. B08L30.
- Sample numbers B08L40 and B08L41 in SDG No. B08L40.
- Sample number B08L61 in SDG No. B08L60.
- Sample number B08LF0 in SDG No. B08LF0.
- Sample number B08LF1 in SDG No. B08LF1.
- Sample number B08LF4 in SDG No. B08LF4.

- Sample number B08LF5 in SDG No. B08LF5.

The analytical spike recovery fell outside the established QC limits and the associated results flagged "J" for thallium in the following samples:

- Sample number B08LC0 in SDG No. B08L30.
- Sample number B08LF0 in SDG No. B08LF0.
- Sample number B08LF1 in SDG No. B08LF1.
- Sample number B08LF4 in SDG No. B08LF4.
- Sample number B08LF5 in SDG No. B08LF5.

All other analytical spike recovery results were acceptable.

5.7.3 Method of Standard Addition (MSA) Results

For all samples whose analytical spike results are outside the 85 to 115 percent control limit and whose absorbances are greater than 50 percent of the analytical spike absorbance an MSA is required. In cases where the MSA correlation coefficient was less than 0.995 the MSA analysis was repeated once. If the correlation coefficient was still less than 0.995, samples were flagged as estimates "J".

All MSA results were acceptable.

5.8 ANALYTE QUANTITATION AND DETECTION LIMITS

Twenty percent of sample results and reported detection limits were recalculated to ensure that the reported results were accurate. Raw data were examined for anomalies, transcription errors, and reduction errors.

The reviewer verified that the results and detection limits fell within the linear range of the instrument.

5.9 OVERALL ASSESSMENT AND SUMMARY

All samples were analyzed and reported under the 1990 CLP protocol (EPA 1990). Several inconsistencies and deviations from the protocol were observed. They are as follows:

A CCV and CCB must be analyzed immediately after the ICV and ICB. ICAP and Mercury do not follow this protocol. For ICAP analysis a CCV and CCB were run after the initial interference checks and CRI. This is incorrect because the ICSA/AB and CRII are considered analytical samples and according to the CLP protocol a CCV and CCB must be run prior to any analytical samples. For mercury, the CCV and CCB were analyzed for after

the first ten samples. Refer to Sections E-11 paragraph 5b and E-15 paragraph 4a of the EPA CLP SOW 3/90 protocol.

Internal Chains of Custody lacked sufficient information such as interdepartmental transfers, i.e., from the sample custodian to the technician responsible for sample preparation and the dates these transfers took place plus the EPA sample ID number. Without this information Internal Chains of Custody can not be verified as those belonging to samples in this report. Refer to Sections F-5, paragraph 1.5 and F-3, paragraph 1.4 of the EPA CLP SOW 3/90 protocol.

For samples analyzed by Roy F. Weston, incorrect ICP instrument detection limits (IDL's) are being used to report results down to the IDL. Two sets of IDL's (Form 10) are included in the data package for ICAP analysis, one for instrument IC1 and one for instrument IC3. According to the case narrative addendum, Roy F. Weston states that the highest IDL of the two instruments is used as per Exhibit E, Section V, Item 10 (pg. E-53) of the EPA Statement of Work for Inorganics Analysis, Document Number ILM01.0. This is correct only when two instruments are being used to determine sample results within a data package. However, in this data package Roy F. Weston used only one ICP instrument to determine the sample results and therefore it is that instrument's IDL's which should be used to calculate results. According to Form XIV information IC1 is the instrument being used for analysis while the IDL's of IC3 are the ones reported on Forms 1-9. This can effect results flagged "U" or results which may be flagged "U" because of laboratory blank contamination.

All raw data associated with Roy F. Weston has not been labeled with the client (EPA) ID number. Results labeled with only the laboratory sample ID number is insufficient. Refer to Section B-10 of the EPA CLP SOW 390.

Except as noted in the preceding sections, all other validated data are usable for all purposes.

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L05																				
Sample Number		B08L05		B08L06		B08L45		B08L46													
Location		199-K-11		199-K-11		199-K-27		199-K-27													
Remarks		NV		NV, FIL		NV		NV, FIL													
Sample Date		06/04/93		06/04/93		06/04/93		06/04/93													
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	59.0	U	59.0	U	59.0	U	59.0	U												
Antimony	60	40.0	U	40.0	U	40.0	U	40.0	U												
Arsenic	10	6.30		6.20		2.00	U	2.00	U												
Barium	200	24.2		25.7		24.4		25.7													
Beryllium	5	1.00	U	1.00	U	1.00	U	1.00	U												
Cadmium	5	5.00	U	5.00	U	5.00	U	5.00	U												
Calcium	5000	32700		34500		44800		45600													
Chromium	10	31.0		34.3		6.00	U	6.00	U												
Cobalt	50	6.00	U	6.00	U	6.00	U	6.00	U												
Copper	25	10.0	U	10.0	U	10.0	U	10.0	U												
Iron	100	117		7.90		87.2		7.00	U												
Lead	3	2.00	U	2.00	U	2.00	U	2.00	U												
Magnesium	5000	9170		9640		9690		9790													
Manganese	15	3.00	U	3.00	U	3.00	U	3.50													
Mercury	0.2	0.10	U	0.10	U	0.10	U	0.10	U												
Nickel	40	21.0	U	21.0	U	21.0	U	21.0	U												
Potassium	5000	5650		5930		4620		5330													
Selenium	5	2.10		2.00	U	2.00	U	2.00	U												
Silver	10	9.00	U	9.00	U	9.00	U	9.00	U												
Sodium	5000	14900		15300		6140		6310													
Thallium	10	5.00	U	5.00	U	5.00	U	5.00	U												
Vanadium	50	21.2		25.5		8.80		9.90													
Zinc	20	15.0		22.5		6.00		4.20													
Cyanide	10	10.0	U	N/A		20.0	U	N/A													

NV = Not Validated, N/A = Not Applicable, FIL = Filtered

9713520.1026
WHC-SD-EN-TI-200, Rev. 0

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L10																				
Sample Number		B08L10		B08L11																	
Location		199-K-13		199-K-13																	
Remarks		NV		NV, FIL																	
Sample Date		07/08/93		07/08/93																	
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	27.00	U	267.00																	
Antimony	60	47.00	U	47.00	U																
Arsenic	10	3.30		3.40																	
Barium	200	29.90		31.20																	
Beryllium	5	1.00	U	1.00	U																
Cadmium	5	5.00	U	5.00	U																
Calcium	5000	46200		44500																	
Chromium	10	53.10		50.60																	
Cobalt	50	8.00	U	8.00	U																
Copper	25	6.00	U	6.00	U																
Iron	100	23.40		15.00																	
Lead	3	2.50		2.00	U																
Magnesium	5000	12100		11600																	
Manganese	15	2.00	U	2.00	U																
Mercury	0.2	0.10	U	0.10	U																
Nickel	40	14.00	U	14.00	U																
Potassium	5000	6400		6290																	
Selenium	5	2.70		2.00	U																
Silver	10	6.00	U	6.00	U																
Sodium	5000	17800		16800																	
Thallium	10	4.00	U	4.00	U																
Vanadium	50	17.80		17.80																	
Zinc	20	17.30		10.80																	
Cyanide	10	20.00	U	N/A																	

NV = Not Validated, FIL = Filtered

9713520.1027
WHC-SD-EN-TI-200, Rev. 0

INORGANIC ANALYSIS, WATER MATRIX, (μg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L15																				
Sample Number		B08L15		B08L16																	
Location		199-K-18		199-K-18																	
Remarks		NV		NV, FIL																	
Sample Date		06/07/93		06/07/93																	
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	59.0	U	59.0	U																
Antimony	60	40.0	U	40.0	U																
Arsenic	10	2.00	U	2.00	U																
Barium	200	34.5		32.4																	
Beryllium	5	1.00	U	1.00	U																
Cadmium	5	5.00	U	5.00	U																
Calcium	5000	64500		65300																	
Chromium	10	42.7		36.9																	
Cobalt	50	6.00	U	6.00	U																
Copper	25	10.0	U	10.0	U																
Iron	100	919		40.6																	
Lead	3	2.00	U	2.00	U																
Magnesium	5000	10200		10300																	
Manganese	15	13.7		6.40																	
Mercury	0.2	0.10	U	0.10	U																
Nickel	40	21.0	U	21.0	U																
Potassium	5000	3950		3690																	
Selenium	5	2.00	U	2.00	U																
Silver	10	9.00	U	9.00	U																
Sodium	5000	4580		4420																	
Thallium	10	5.00	U	5.00	U																
Vanadium	50	8.30		9.30																	
Zinc	20	6.80		4.20																	
Cyanide	10	20.0	U	N/A																	

N/A = Not Applicable, FIL = Filtered, NV = Not Validated

9713520.1028

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L20																				
Sample Number		B08L20		B08L21																	
Location		199-K-19		199-K-19																	
Remarks		NV		NV, FIL																	
Sample Date		06/15/93		06/15/93																	
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	76.8		59.0	U																
Antimony	60	40.0	U	40.0	U																
Arsenic	10	2.00	U	2.00	U																
Barium	200	20.2		20.2																	
Beryllium	5	1.00	U	1.00	U																
Cadmium	5	5.00	U	5.00	U																
Calcium	5000	45100		45500																	
Chromium	10	128		120																	
Cobalt	50	6.00	U	6.00	U																
Copper	25	10.0	U	10.0	U																
Iron	100	200		9.60																	
Lead	3	2.00	U	2.00	U																
Magnesium	5000	6410		6460																	
Manganese	15	8.80		3.00	U																
Mercury	0.2	0.10	U	0.10	U																
Nickel	40	21.0	U	21.0	U																
Potassium	5000	2530		3120																	
Selenium	5	2.30		2.00	U																
Silver	10	9.00	U	9.00	U																
Sodium	5000	5440		5370																	
Thallium	10	5.00	U	5.00	U																
Vanadium	50	7.00	U	7.00	U																
Zinc	20	110		21.7																	
Cyanide	10	20.0	U	N/A																	

NV = Not Validated, N/A = Not Applicable, FIL = Filtered

9713520.1029
WHC-SD-EN-TI-200, Rev. 0

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L25																				
Sample Number		B08L25		B08L26		B08LD0		B08LD1													
Location		199-K-20		199-K-20		199-K-20		199-K-20													
Remarks				FIL		DUP		DUP, FIL													
Sample Date		06/09/93		06/09/93		06/09/93		06/09/93													
Inorganic Analytes	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	59.0	U	59.0	U	59.0	U	59.0	U												
Antimony	60	40.0	U	40.0	U	40.0	U	40.0	U												
Arsenic	10	2.00	U	2.00	U	2.10		2.00	U												
Barium	200	26.2		20.9		22.0		20.9													
Beryllium	5	1.00	U	1.20	U	1.00	U	1.20	U												
Cadmium	5	5.00		7.10		30.3	J	7.90	J												
Calcium	5000	45100		44200		42700		45400													
Chromium	10	163		154		149		157													
Cobalt	50	6.00	U	6.00	U	6.00	U	6.00	U												
Copper	25	10.0	U	10.0	U	10.0	U	10.0	U												
Iron	100	45.7	U	7.00	U	65.3	U	7.00	U												
Lead	3	2.00	UJ	3.50	UJ	2.00	U	2.00	U												
Magnesium	5000	8580		8330		8060		8620													
Manganese	15	3.00	U	3.00	U	3.00	U	3.00	U												
Mercury	0.2	0.10	U	0.10	U	0.10	U	0.10	U												
Nickel	40	21.0	U	21.0	U	21.0	U	21.0	U												
Potassium	5000	4100		3610		3480		3910													
Selenium	5	2.00	R	2.00	R	9.40	J	2.10	J												
Silver	10	9.00	U	9.00	U	9.00	U	9.00	U												
Sodium	5000	5040		4930		4830		5030													
Thallium	10	5.00	U	5.00	U	5.00	U	5.00	U												
Vanadium	50	25.5	U	23.0	U	21.4	U	27.1	U												
Zinc	20	35.2	U	9.00	U	29.2	U	9.00	U												
Cyanide	10	20.0	UJ	N/A		10.0	UJ	N/A													

DUP = Duplicate, FIL = Filtered, N/A = Not Applicable

BLANK AND SAMPLE DATA SUMMARY

SDG: B08L25	REVIEWER: DKW			DATE: 9/9/93				PAGE_1_OF_1_	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
PBW	Beryllium	1.8			ug/L	9.0	18.0	B08LD1, B08L26	U
PBW	Iron	19.7			ug/L	98.5	197	B08LD0, B08L25	U
PBW	Lead	2.4			ug/L	12.0	24.0	B08L26	U
PBW	Vanadium	15.8			ug/L	79.0	158	All	U
PBW	Zinc	8.2			ug/L	41.0	82.0	All	U

ACCURACY DATA SUMMARY

SDG: B08L25	REVIEWER: DKW	DATE: 9/9/93	PAGE 1 OF 1	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08LD0S	Cadmium	36.2	All	J
B08LD0S	Selenium	29.0	B08LD0, B08LD1	J
B08LD0S	Selenium	29.0	B08L25, B08L26	R
B08LD1A	Selenium	65.0	B08LD1	J
B08L25A	Lead	72.5	B08L25	J
B08L26A	Selenium	84.0	B08L26	J
B08L26A	Lead	72.5	B08L26	J

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PRECISION DATA SUMMARY

SDG: B08L25	REVIEWER: DKW	DATE: 9/9/93	PAGE 1 OF 1
COMMENTS:			

COMPOUND	SAMPLE ID:	SAMPLE ID:	RPD	SAMPLES AFFECTED	QUALIFIER
Cadmium	B08LD0	B08LD0D	200.0	All	J
Selenium	B08LD0	B08LD0D	105.7	All	J

9713520.1437
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DATA QUALIFICATION SUMMARY

SDG: B08L25	REVIEWER: DKW	DATE: 9/9/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Cyanide	J	B08L25, B08LD0	Midpoint Standard Distillation not Performed
Beryllium	U	B08L26, B08LD1	Lab Blank Contamination
Iron	U	B08L25, B08LD0	Lab Blank Contamination
Lead	U	B08L26	Lab Blank Contamination
Vanadium	U	All	Lab Blank Contamination
Zinc	U	All	Lab Blank Contamination
Cadmium	J	All	Matrix Spike Recovery
Selenium	J	B08LD0, B08LD1	Matrix Spike Recovery
Selenium	R	B08L25, B08L26	Matrix Spike Recovery
Selenium	J	B08L26, B08LD1	Analytical Spike Recovery
Lead	J	B08L25, B08L26	Analytical Spike Recovery
Cadmium	J	All	Duplicate Precision RPD Out
Selenium	J	All	Duplicate Precision RPD Out

INORGANIC ANALYSIS, WATER MATRIX, (μg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L30																				
Sample Number		B08L30		B08L31		B08L90		B08L91		B08LB0		B08LB1		B08LC0		B08LC1					
Location		199-K-21		199-K-21		199-K-37		199-K-37		699-78-62		699-78-62		EB-1		EB-1					
Remarks				FIL				FIL				FIL				FIL					
Sample Date		06/25/93		06/25/93		06/26/93		06/26/93		06/26/93		06/26/93		06/26/93		06/26/93					
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	59.0	U	59.0	U	59.0	U	59.0	U	59.0	U	59.0	U	59.0	U	59.0	U				
Antimony	60	40.0	U	40.0	U	40.0	U	40.0	U	40.0	U	40.0	U	40.0	U	40.0	U				
Arsenic	10	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.70		2.00	U	2.00	U				
Barium	200	14.6		13.1		25.5		22.5		26.9		25.3		5.00	U	5.00	U				
Beryllium	5	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U				
Cadmium	5	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U				
Calcium	5000	41200		39700		36200		32600		37100		35800		17.00	U	17.00	U				
Chromium	10	75.3		67.3		121		98.3		42.5		36.0		6.00	U	6.00	U				
Cobalt	50	6.00	U	6.00	U	6.00	U	6.00	U	6.00	U	6.00	U	6.00	U	6.00	U				
Copper	25	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U				
Iron	100	122		7.00	U	19.1	U	7.00	U	8.40	U	7.00	U	7.00	U	7.00	U				
Lead	3	2.00	U	2.00	U	2.00	U	2.00		2.00	U	2.00	UJ	2.00	U	2.00	U				
Magnesium	5000	8190		7830		7540		7010		10600		10400		46.0	U	46.0	U				
Manganese	15	5.50		3.00	U	3.00	U	3.00	U	3.00	U	3.00	U	3.00	U	3.00	U				
Mercury	0.2	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U				
Nickel	40	21.0	U	21.0	U	21.0	U	21.0	U	21.0	U	21.0	U	21.0	U	21.0	U				
Potassium	5000	1320		1540		3590		2930		4450		4140		827	U	827	U				
Selenium	5	2.00	UJ	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U				
Silver	10	9.00	U	9.00	U	9.00	U	9.00	U	9.00	U	9.00	U	9.00	U	9.00	U				
Sodium	5000	3350		3250		8550		7570		15100		14500		109	U	109	U				
Thallium	10	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	UJ	5.00	U				
Vanadium	50	7.00	U	7.00	U	12.3		9.30		11.9		10.0		7.00	U	7.00	U				
Zinc	20	13.5	U	17.6	U	10.6	U	18.0	U	99.2		7.80	U	8.60	U	5.70	U				
Cyanide	10	10.0	UJ	N/A		20.0	UJ	N/A		10.0	UJ	N/A		10.0	UJ	N/A					

EB = Equipment Blank, N/A = Not Applicable, FIL = Filtered

9713520.1035 WHC-SD-EN-TI-200, Rev. 0

9713520.1036

BLANK AND SAMPLE DATA SUMMARY

SDG: B08L30	REVIEWER: DKW			DATE: 9/8/93				PAGE 1 OF 1	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
PBW	Iron	18.3			ug/L	91.5	183	B08LB0, B08L90	U
PBW	Zinc	5.3			ug/L	26.5	53.0	B08L30, B08L31, B08L90, B08L91, B08LB1, B08LC0, B08LC1	U

ACCURACY DATA SUMMARY

SDG: B08L30	REVIEWER: DKW	DATE: 9/8/93	PAGE_1_OF_1_	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08LB1A	Lead	82.0	B08LB1	J
B08L30A	Selenium	84.0	B08L30	J
B08LC0A	Thallium	117.5	B08LC0	J

DATA QUALIFICATION SUMMARY

SDG: B08L30	REVIEWER: DKW	DATE: 9/8/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Cyanide	J	B08L30, B08L90, B08LB0, B08LC0	Midpoint standard distillation not performed
Iron	U	B08L90, B08LB0	Lab blank contamination
Zinc	U	B08L30, B08L31, B08L90, B08L91, B08LB1, B08LC0, B08LC1	Lab blank contamination
Lead	J	B08LB1	GFAA analytical spike
Selenium	J	B08L30	GFAA analytical spike
Thallium	J	B08LC0	GFAA analytical spike

INORGANIC ANALYSIS, WATER MATRIX, (μg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L35																				
Sample Number		B08L35		B08L36																	
Location		199-K-22		199-K-22																	
Remarks		NV		NV, FIL																	
Sample Date		06/08/93		06/08/93																	
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	59.0	U	59.0	U																
Antimony	60	40.0	U	40.0	U																
Arsenic	10	2.00	U	2.00	U																
Barium	200	23.7		23.5																	
Beryllium	5	1.00	U	1.00	U																
Cadmium	5	5.00	U	5.00	U																
Calcium	5000	46200		48700																	
Chromium	10	172		159																	
Cobalt	50	6.00	U	6.00	U																
Copper	25	10.0	U	10.0	U																
Iron	100	49.9		7.00	U																
Lead	3	2.00	U	2.00	U																
Magnesium	5000	8230		8680																	
Manganese	15	7.10		8.20																	
Mercury	0.2	0.10	U	0.10	U																
Nickel	40	21.0	U	21.0	U																
Potassium	5000	1960		2910																	
Selenium	5	2.00	U	2.00	U																
Silver	10	9.00	U	9.00	U																
Sodium	5000	6400		6670																	
Thallium	10	5.00	U	5.00	U																
Vanadium	50	7.00	U	7.00	U																
Zinc	20	461		186																	
Cyanide	10	20.0	U	N/A																	

NV = Not Validated, N/A = Not Applicable, FIL = Filtered

9713520.1039
WHC-SD-EN-TI-200, Rev. 0

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L40																				
Sample Number		B08L40		B08L41		B08LC5		B08LC6													
Location		199-K-23		199-K-23		EB-2		EB-2													
Remarks				FIL				FIL													
Sample Date		07/06/93		07/06/93		07/06/93		07/06/93													
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	844	J	27.0	UJ	27.0	UJ	27.0	UJ												
Antimony	60	47.0	U	47.0	U	47.0	U	47.0	U												
Arsenic	10	4.00	J	2.80	J	2.00	UJ	2.00	UJ												
Barium	200	47.9		28.1		4.00	U	4.00	U												
Beryllium	5	1.00	U	1.00	U	1.00	U	1.00	U												
Cadmium	5	5.00	U	5.00	U	5.00	U	5.00	U												
Calcium	5000	42800	J	45700	J	30.5	J	20.0	UJ												
Chromium	10	107	J	58.7	J	5.00	UJ	5.00	UJ												
Cobalt	50	8.00	U	8.00	U	8.00	U	8.00	U												
Copper	25	11.7		6.00	U	6.00	U	6.00	U												
Iron	100	5430	J	13.0	UJ	13.0	UJ	13.0	UJ												
Lead	3	5.60	J	2.00	UJ	2.00	UJ	2.00	UJ												
Magnesium	5000	11100		11700		107	U	107	U												
Manganese	15	117	J	5.10	J	2.00	UJ	2.00	UJ												
Mercury	0.2	0.10	U	0.10	U	0.10	U	0.10	U												
Nickel	40	14.0	U	14.0	U	14.0	U	14.0	U												
Potassium	5000	7960		8450		648	U	648	U												
Selenium	5	2.20	J	2.00	J	2.00	U	2.00	U												
Silver	10	6.00	UJ	6.00	UJ	6.00	UJ	6.00	UJ												
Sodium	5000	17000	J	18500	J	55.0	UJ	87.4	UJ												
Thallium	10	4.00	U	4.00	U	4.00	U	4.00	U												
Vanadium	50	19.6		13.2		9.00	U	9.00	U												
Zinc	20	13.4		9.00	U	9.00	U	9.00	U												
Cyanide	10	20.0	U	N/A		10.0	U	N/A													

EB = Equipment Blank, N/A = Not Applicable, FIL = Filtered

9713520.1040 SD-EN-TI-200, Rev. 0

BLANK AND SAMPLE DATA SUMMARY

SDG: B08L40	REVIEWER: PMG			DATE: 9/21/93				PAGE_1_OF_1	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
PBW	Sodium	107.7			ug/L	538.5	1077	B08LC6	U

9713520.4041 HQ SD-EN-TI-200, Rev. 0

ACCURACY DATA SUMMARY

SDG: B08L40	REVIEWER: PMG	DATE: 9/21/93	PAGE 1 OF 1	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08L40S	Arsenic	72.5	All	J
B08L40S	Iron	248.5	BO8L40	J
BO8L40S	Lead	50.5	All	J
BO8L40S	Silver	73.8	All	J
BO8L40A	Arsenic	68.4	BO8L40	J
BO8L40A	Selenium	74.7	BO8L40	J
BO8L40A	Lead	75.2	BO8L40	J
BO8L41A	Arsenic	69.2	BO8L41	J
BO8L41A	Selenium	72.6	BO8L41	J
BO8L41A	Lead	77.4	BO8L41	J
BO8LC5A	Lead	118.2	BO8LC5	J
BO8LC6A	Lead	117.3	BO8LC6	J

PRECISION DATA SUMMARY

SDG: BO8L40	REVIEWER: PMG	DATE: 9/21/93	PAGE 1 OF 1
COMMENTS:			

COMPOUND	SAMPLE ID:	SAMPLE ID:	RPD	SAMPLES AFFECTED	QUALIFIER
Aluminum	BO8L40	BO8L40D	31.8	All	J
Calcium	BO8L40	BO8L40D	26.1	All	J
Chromium	BO8L40	BO8L40D	26.8	All	J
Iron	BO8L40	BO8L40D	26.9	All	J
Lead	BO8L40	BO8L40D	87.2	All	J
Manganese	BO8L40	BO8L40D	26.2	All	J
Sodium	BO8L40	BO8L40D	27.0	All	J

DATA QUALIFICATION SUMMARY

SDG: BO8L40	REVIEWER: PMG	DATE: 9/21/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Sodium	U	BO8LC6	Lab Blank Contamination
Arsenic	J	All	% Spike Recovery
Iron	J	BO8L40	% Spike Recovery
Lead	J	All	% Spike Recovery
Silver	J	All	% Spike Recovery
Arsenic	J	BO8L40, BO8L41	GFAA Analytical Spike
Selenium	J	BO8L40, BO8L41	GFAA Analytical Spike
Lead	J	BO8L40, BO8L41, BO8LC5, BO8LC6	GFAA Analytical Spike
Aluminum	J	All	Duplicate RPD
Calcium	J	All	Duplicate RPD
Chromium	J	All	Duplicate RPD
Iron	J	All	Duplicate RPD
Lead	J	All	Duplicate RPD
Manganese	J	All	Duplicate RPD
Sodium	J	All	Duplicate RPD

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L50																				
Sample Number		B08L50		B08L51																	
Location		199-K-30		199-K-30																	
Remarks		NV		NV, FIL																	
Sample Date		06/03/93		06/03/93																	
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	59.0	U	59.0	U																
Antimony	60	40.0	U	40.0	U																
Arsenic	10	2.60		2.20																	
Barium	200	35.9		34.9																	
Beryllium	5	1.00	U	1.00	U																
Cadmium	5	5.00	U	5.00	U																
Calcium	5000	62800		62700																	
Chromium	10	6.00	U	6.00	U																
Cobalt	50	6.00	U	6.00	U																
Copper	25	10.0	U	10.0	U																
Iron	100	26.4		8.80																	
Lead	3	2.00	U	2.00	U																
Magnesium	5000	13900		13900																	
Manganese	15	3.00	U	3.00	U																
Mercury	0.2	0.10	U	0.10	U																
Nickel	40	21.0	U	21.0	U																
Potassium	5000	6090		5260																	
Selenium	5	6.40		2.40																	
Silver	10	9.00	U	9.00	U																
Sodium	5000	11000		11100																	
Thallium	10	5.00	U	5.00	U																
Vanadium	50	8.10		7.00	U																
Zinc	20	17.9		9.80																	
Cyanide	10	20.0	U	N/A																	

NV = Not Validated, N/A = Not Applicable, FIL = Filtered

9713520.1045
WHC-SD-EN-TI-200, Rev. 0

INORGANIC ANALYSIS, WATER MATRIX, (μg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L55																				
Sample Number		B08L55		B08L56		B08LB5		B08LB6		B08LD5		B08LD6									
Location		199-K-31		199-K-31		699-73-61		699-73-61		699-73-61		699-73-61									
Remarks				FIL				FIL		DUP		DUP, FIL									
Sample Date		06/16/93		06/16/93		06/17/93		06/17/93		06/17/93		06/17/93									
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	59.0	U	59.0	U	59.0	U	59.0	U	59.0	U	59.0	U								
Antimony	60	40.0	U	40.0	U	40.0	U	40.0	U	40.0	U	40.0	U								
Arsenic	10	2.10		2.00		3.10		2.70		2.00	U	2.60	J								
Barium	200	22.2	U	21.5	U	29.6	U	23.3	U	25.6	U	23.6	U								
Beryllium	5	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U								
Cadmium	5	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U								
Calcium	5000	33900	J	34100	J	40200	J	32700	J	36100	J	33200	J								
Chromium	10	8.40		6.80		7.80		6.00	U	8.40		7.10									
Cobalt	50	6.00	U	6.00	U	6.00	U	6.00	U	6.00	U	6.00	U								
Copper	25	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U								
Iron	100	29.0	U	7.00	U	43.6		7.00	U	37.9	U	7.00	U								
Lead	3	4.60		2.00	U	5.40		7.20		3.40		2.30									
Magnesium	5000	7520	J	7570	J	10600	J	8580	J	9560	J	8740	J								
Manganese	15	3.00	U	3.00	U	9.30	U	7.30	U	7.80	U	8.30	U								
Mercury	0.2	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U								
Nickel	40	21.0	U	21.0	U	21.0	U	21.0	U	21.0	U	21.0	U								
Potassium	5000	3940		3680		5650		4120		4260		4490									
Selenium	5	2.00	U	2.00	U	3.20		2.00	U	2.00	U	2.00	U								
Silver	10	9.00	U	9.00	U	9.00	U	9.00	U	9.00	U	9.00	U								
Sodium	5000	11800	J	11900	J	20900	J	16600	J	18200	J	16800	J								
Thallium	10	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U								
Vanadium	50	8.30		7.50		12.1		7.00	U	11.3		10.4									
Zinc	20	9.00	UJ	3.50	UJ	136	J	19.2	UJ	117	J	6.70	UJ								
Cyanide	10	10.0	UJ	N/A		20.0	UJ	N/A		10.0	UJ	N/A									

DUP = Duplicate, N/A = Not Applicable, FIL = Filtered

9713520.1096 HC-SD-EN-TI-200, Rev. 0

PRECISION DATA SUMMARY

SDG: B08L55	REVIEWER: DKW	DATE: 9/10/93	PAGE 1 OF 1
COMMENTS:			

COMPOUND	SAMPLE ID:	SAMPLE ID:	RPD	SAMPLES AFFECTED	QUALIFIER
Calcium	B08LB5	B08LB5D	22.3	All	J
Zinc	B08LB5	B08LB5D	24.3	All	J
Calcium	B08LB5	B08LB5L	58.5	All	J
Magnesium	B08LB5	B08LB5L	38.5	All	J
Sodium	B08LB5	B08LB5L	18.4	All	J

ACCURACY DATA SUMMARY

SDG: B08L55	REVIEWER: DKW	DATE: 9/10/93	PAGE 1 OF 1	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08LD6A	Arsenic	83.5	B08LD6	J

9713520.1610
WHC-SD-EN-TI-200, Rev. 0

BLANK AND SAMPLE DATA SUMMARY

SDG: B08L55	REVIEWER: KG			DATE: 9/10/93				PAGE_1_OF_1	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
CCB	Barium	6.2			ug/L	31.0	62.0	All	U
CCB	Iron	8.7			ug/L	43.5	87.0	B08LD5, B08L55	U
CCB	Manganese	5.2			ug/L	26.0	52.0	B08LB5, B08LB6, B08LD5, B08LD6	U
PBW	Zinc	4.7			ug/L	23.5	47.0	B08L55, B08L56, B08LB6, B08LD6	U

DATA QUALIFICATION SUMMARY

SDG: B08L55	REVIEWER: DKW	DATE: 9/10/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Cyanide	J	B08L55, B08LB5, B08LD5	Midpoint Standard Distillation Not Performed
Barium	U	All	Lab Blank Contamination
Iron	U	B08L55, B08LD5	Lab Blank Contamination
Manganese	U	B08LB5, B08LB6, B08LD5, B08LD6	Lab Blank Contamination
Zinc	U	B08L55, B08L56, B08LB6, B08LD6	Lab Blank Contamination
Arsenic	J	B08LD6	Analytical Spike Recovery
Calcium	J	All	Duplicate RPD Out
Zinc	J	All	Duplicate RPD Out
Calcium	J	All	ICP Serial Dilution
Magnesium	J	All	ICP Serial Dilution
Sodium	J	All	ICP Serial Dilution

INORGANIC ANALYSIS, WATER MATRIX, (μg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L60																				
Sample Number		B08L60		B08L61																	
Location		199-K-32A		199-K-32A																	
Remarks				FIL																	
Sample Date		06/14/93		06/14/93																	
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	74.4		59.0	U																
Antimony	60	40.0	U	40.0	U																
Arsenic	10	2.00	U	2.00	U																
Barium	200	33.2		31.5																	
Beryllium	5	1.00	U	1.00	U																
Cadmium	5	5.00	U	5.00	U																
Calcium	5000	42100		41800																	
Chromium	10	39.9		28.1																	
Cobalt	50	6.00	U	6.00	U																
Copper	25	10.0	U	10.0	U																
Iron	100	260		12.0	U																
Lead	3	2.00	UJ	2.00	UJ																
Magnesium	5000	4530	J	4480	J																
Manganese	15	5.50		3.00	U																
Mercury	0.2	0.10	U	0.10	U																
Nickel	40	21.0	U	21.0	U																
Potassium	5000	1630		1970																	
Selenium	5	20.0	U	2.0	UJ																
Silver	10	9.00	U	9.00	U																
Sodium	5000	5580	J	5650	J																
Thallium	10	5.00	U	5.00	U																
Vanadium	50	32.3	U	32.2	U																
Zinc	20	30.1	U	13.1	U																
Cyanide	10	20.0	UJ	N/A																	

N/A = Not Applicable, FIL = Filtered

9713520.WHS-SD-EN-TI-200, Rev. 0

BLANK AND SAMPLE DATA SUMMARY

SDG: B08L60	REVIEWER: DKW			DATE: 9/9/93				PAGE 1 OF 1	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
PBW	Iron	11.0			ug/L	55.0	110	B08L61	U
CCB	Vanadium	20.9			ug/L	104.5	209	B08L60, B08L61	U
PBW	Zinc	9.0			ug/L	45.0	90	B08L60, B08L61	U

ACCURACY DATA SUMMARY

SDG: B08L60	REVIEWER: DKW	DATE: 9/9/93	PAGE 1 OF 1	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08L60S	Lead	63.0	B08L60, B08L61	J
B08L60A	Lead	56.0	B08L60	J
B08L61A	Lead	62.5	B08L61	J
B08L61A	Selenium	49.0	B08L61	J

PRECISION DATA SUMMARY

SDG: B08L60	REVIEWER: DKW	DATE: 9/9/93	PAGE 1 OF 1
COMMENTS:			

COMPOUND	SAMPLE ID:	SAMPLE ID:	RPD	SAMPLES AFFECTED	QUALIFIER
Magnesium	B08L60	B08L60L	22.5	B08L60, B08L61	J
Sodium	B08L60	B08L60L	16.4	B08L60, B08L61	J

9713520.1205
WHC-SD-EN-TI-200, Rev. 0

DATA QUALIFICATION SUMMARY

SDG: B08L60	REVIEWER: DKW	DATE: 9/9/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Cyanide	J	B08L60	Midpoint Standard Distillation Not Performed
Iron	U	B08L61	Lab Blank Contamination
Vanadium	U	B08L60, B08L61	Lab Blank Contamination
Zinc	U	B08L60, B08L61	Lab Blank Contamination
Lead	J	B08L60, B08L61	Matrix Spike Recovery
Lead	J	B08L60, B08L61	GFAA Analytical Spike Recovery
Selenium	J	B08L61	GFAA Analytical Spike Recovery
Magnesium	J	B08L60, B08L61	ICP Serial Dilution Results
Sodium	J	B08L60, B08L61	ICP Serial Dilution Results

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L65																				
Sample Number		B08L65		B08L66																	
Location		199-K-32B		199-K-32B																	
Remarks		NV		NV, FIL																	
Sample Date		07/07/93		07/07/93																	
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	30.50		27.00	U																
Antimony	60	47.00	U	47.00	U																
Arsenic	10	2.00	U	2.00	U																
Barium	200	89.10		75.90																	
Beryllium	5	1.00	U	1.00	U																
Cadmium	5	5.00	U	5.00	U																
Calcium	5000	30400		27500																	
Chromium	10	17.60		7.60																	
Cobalt	50	8.00	U	8.00	U																
Copper	25	6.00	U	6.00	U																
Iron	100	80.80		13.30																	
Lead	3	2.00	U	2.00	U																
Magnesium	5000	17100		15700																	
Manganese	15	66.40		40.80																	
Mercury	0.2	0.10	U	0.10	U																
Nickel	40	14.00	U	14.00	U																
Potassium	5000	5490		5400																	
Selenium	5	2.00	U	2.60																	
Silver	10	6.00	U	6.00	U																
Sodium	5000	32500		30000																	
Thallium	10	4.00	U	4.00	U																
Vanadium	50	9.00	U	9.00	U																
Zinc	20	14.00		9.00																	
Cyanide	10	20.00	U	N/A																	

NV = Not Validated, N/A = Not Applicable, FIL = Filtered

9713520.1056 WHC-SD-EN-TI-200, Rev. 0

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L70																				
Sample Number		B08L70		B08L71																	
Location		199-K-33		199-K-33																	
Remarks		NV		NV, FIL																	
Sample Date		06/10/93		06/10/93																	
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	68.8		59.0	U																
Antimony	60	40.0	U	40.0	U																
Arsenic	10	2.00	U	2.00	U																
Barium	200	52.1		49.0																	
Beryllium	5	1.00	U	1.00	U																
Cadmium	5	5.00	U	5.00	U																
Calcium	5000	94600		91400																	
Chromium	10	24.1		9.80																	
Cobalt	50	6.00	U	6.00	U																
Copper	25	10.0	U	10.0	U																
Iron	100	297		7.00	U																
Lead	3	2.00	U	2.00	U																
Magnesium	5000	11500		11000																	
Manganese	15	3.30		3.00	U																
Mercury	0.2	0.10	U	0.10	U																
Nickel	40	21.0	U	21.0	U																
Potassium	5000	4780		4470																	
Selenium	5	2.70		2.00	U																
Silver	10	9.00	U	9.00	U																
Sodium	5000	14900		14300																	
Thallium	10	5.00	U	5.00	U																
Vanadium	50	29.4		29.5																	
Zinc	20	54.0		4.90																	
Cyanide	10	20.0	U	N/A																	

NV = Not Validated, N/A = Not Applicable, FIL = Filtered

9713520.1057

INORGANIC ANALYSIS, WATER MATRIX, (μg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L75																				
Sample Number		B08L75		B08L76																	
Location		199-K-34		199-K-34																	
Remarks		NV		NV, FIL																	
Sample Date		06/01/93		06/01/93																	
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	59.0	U	59.0	U																
Antimony	60	40.0	U	40.0	U																
Arsenic	10	3.70		2.00	U																
Barium	200	47.1		46.0																	
Beryllium	5	1.00	U	1.00	U																
Cadmium	5	5.00	U	5.00	U																
Calcium	5000	58000		61000																	
Chromium	10	156		160																	
Cobalt	50	6.00	U	6.00	U																
Copper	25	10.0	U	10.0	U																
Iron	100	64.9		37.1																	
Lead	3	2.00	U	2.00	U																
Magnesium	5000	10800		11400																	
Manganese	15	3.00	U	3.00	U																
Mercury	0.2	0.10	U	0.10	U																
Nickel	40	21.0	U	21.0	U																
Potassium	5000	3850		4250																	
Selenium	5	2.00	U	2.00	U																
Silver	10	9.00	U	9.00	U																
Sodium	5000	20300		21200																	
Thallium	10	5.00	U	5.00	U																
Vanadium	50	10.3		13.6																	
Zinc	20	28.4		7.20																	
Cyanide	10	20.0	U	N/A																	

NV = Not Validated, N/A = Not Applicable, FIL = Filtered

9713520.1058
WHC-SD-EN-TI-200, Rev. 0

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L80																				
Sample Number		B08L80		B08L81		B08L85		B08L86													
Location		199-K-35		199-K-35		199-K-36		199-K-36													
Remarks		NV		NV, FIL		NV		NV, FIL													
Sample Date		06/02/93		06/02/93		06/02/93		06/02/93													
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	59.0	U	59.0	U	59.0	U	59.0	U												
Antimony	60	40.0	U	40.0	U	40.0	U	40.0	U												
Arsenic	10	2.00	U	2.20		2.20	U	2.70													
Barium	200	32.7		30.6		35.9		35.9													
Beryllium	5	1.00	U	1.00	U	1.00	U	1.00	U												
Cadmium	5	5.00	U	5.00	U	5.00	U	5.00	U												
Calcium	5000	33500		36800		36100		36900													
Chromium	10	15.6		12.0		226		214													
Cobalt	50	6.00	U	6.00	U	6.00	U	6.00	U												
Copper	25	10.0	U	10.0	U	10.0	U	10.0	U												
Iron	100	67.7		9.60		74.9		9.60													
Lead	3	2.00	U	2.00	U	2.40		2.00	U												
Magnesium	5000	9390		9710		8720		8860													
Manganese	15	4.70		3.00	U	3.00	U	3.00	U												
Mercury	0.2	0.10	U	0.10	U	0.10	U	0.10	U												
Nickel	40	21.0	U	21.0	U	21.0	U	21.0	U												
Potassium	5000	3160		4440		4200		4440													
Selenium	5	3.10		2.00	U	2.00	U	2.00	U												
Silver	10	9.00	U	9.00	U	9.00	U	9.00	U												
Sodium	5000	13500		13500		11500		11700													
Thallium	10	5.00	U	5.00	U	5.00	U	5.00	U												
Vanadium	50	7.00	U	21.9		19.6		17.5													
Zinc	20	10.0		10.0		15.1		10.0													
Cyanide	10	20.0	U	N/A		10.0	U	N/A													

NV = Not Validated, N/A = Not Applicable, FIL = Filtered

9713520.1059 WHC-SD-EN-TI-200, Rev. 0

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Roy F. Weston																					
Case	SDG: B08L95																				
Sample Number		B08L95		B08L96																	
Location		699-70-68		699-70-68																	
Remarks		NV		NV, FIL																	
Sample Date		06/18/93		06/18/93																	
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	59.0	U	59.0	U																
Antimony	60	40.0	U	40.0	U																
Arsenic	10	2.00	U	2.30																	
Barium	200	13.9		11.7																	
Beryllium	5	1.00	U	1.00	U																
Cadmium	5	5.00	U	5.00	U																
Calcium	5000	32900		31500																	
Chromium	10	6.00	U	6.00	U																
Cobalt	50	6.00	U	6.00	U																
Copper	25	10.0	U	10.0	U																
Iron	100	139		7.00	U																
Lead	3	2.00	U	2.00	U																
Magnesium	5000	9120		8730																	
Manganese	15	3.00	U	3.00	U																
Mercury	0.2	0.10	U	0.10	U																
Nickel	40	21.0	U	21.0	U																
Potassium	5000	5590		4740																	
Selenium	5	3.40		2.30																	
Silver	10	9.00	U	9.00	U																
Sodium	5000	14000		13000																	
Thallium	10	5.00	U	5.00	U																
Vanadium	50	20.2		20.6																	
Zinc	20	13.3		3.70																	
Cyanide	10	20.0	U	N/A																	

NV = Not Validated N/A = Not Applicable FIL = Filtered

9713520.1040 WHC-SD-EN-TI-200, Rev. 0

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: TMA																					
Case	SDG: B08LF0																				
Sample Number		B08LF0																			
Location		199-K-20																			
Remarks		Split																			
Sample Date		06/09/93																			
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	23.5	U																		
Antimony	60	17.9	U																		
Arsenic	10	2.7	U																		
Barium	200	21.6																			
Beryllium	5	0.50	U																		
Cadmium	5	1.7	U																		
Calcium	5000	43200																			
Chromium	10	163																			
Cobalt	50	3.8	U																		
Copper	25	4.2	U																		
Iron	100	4.8	U																		
Lead	3	1.9	U																		
Magnesium	5000	8390																			
Manganese	15	1.8	U																		
Mercury	0.2	0.10	U																		
Nickel	40	6.1	U																		
Potassium	5000	3380																			
Selenium	5	3.7	UJ																		
Silver	10	3.8	U																		
Sodium	5000	4820																			
Thallium	10	2.0	UJ																		
Vanadium	50	7.2																			
Zinc	20	5.0	U																		
Cyanide	10	10.0	U																		

N/A = Not Applicable, FIL = Filtered

9713520.1464 D-EN-TI-200, Rev. 0

BLANK AND SAMPLE DATA SUMMARY

SDG: B08LF0	REVIEWER: DKW			DATE: 9/13/93				PAGE_1_OF_1_	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
CCB	Zinc	7.9			ug/L	39.5	79.0	B08LF0	U

9713520.1062 WHC-SD-EN-TI-200, Rev. 0

ACCURACY DATA SUMMARY

SDG: B08LF0	REVIEWER: DKW	DATE: 9/13/93	PAGE 1 OF 1	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08LF0S	Selenium	64.2	B08LF0	J
B08LF0A	Selenium	76.0	B08LF0	J
B08LF0A	Thallium	81.7	B08LF0	J

9713520.1863 SD-EN-TI-200, Rev. 0

DATA QUALIFICATION SUMMARY

SDG: B08LF0	REVIEWER: DKW	DATE: 9/13/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Zinc	U	B08LF0	Lab blank contamination
Selenium	J	B08LF0	Matrix spike recovery
Selenium	J	B08LF0	GFAA Analytical spike recovery
Thallium	J	B08LF0	GFAA Analytical spike recovery

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																						
Laboratory: TMA																						
Case	SDG: B08LF1																					
Sample Number		B08LF1																				
Location		199-K-20																				
Remarks		Split, FIL																				
Sample Date		06/09/93																				
Inorganic Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	
Aluminum	200	26.1	U																			
Antimony	60	17.9	U																			
Arsenic	10	2.7	U																			
Barium	200	22.0																				
Beryllium	5	0.50	U																			
Cadmium	5	1.7	U																			
Calcium	5000	42100																				
Chromium	10	158																				
Cobalt	50	3.8	U																			
Copper	25	4.2	U																			
Iron	100	4.8	U																			
Lead	3	2.5																				
Magnesium	5000	8200																				
Manganese	15	1.8	U																			
Mercury	0.2	0.10	U																			
Nickel	40	6.1	U																			
Potassium	5000	3360																				
Selenium	5	3.7	UJ																			
Silver	10	3.8	U																			
Sodium	5000	4730																				
Thallium	10	2.0	UJ																			
Vanadium	50	7.9																				
Zinc	20	3.4	U																			
Cyanide	10	N/A																				

N/A = Not Applicable, FIL = Filtered

9713520.1065
WHC-SD-EN-TI-200, Rev. 0

BLANK AND SAMPLE DATA SUMMARY

SDG: B08LF1	REVIEWER: DKW			DATE: 9/13/93				PAGE_1_OF_1_	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
CCB	Aluminum	44.8			ug/L	224	448	B08LF1	U

9713520.1864 WHC-SD-EN-TI-200, Rev. 0

ACCURACY DATA SUMMARY

SDG: B08LF1	REVIEWER: DKW	DATE: 9/13/93	PAGE 1 OF 1	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08LF1S	Selenium	66.3	B08LF1	J
B08LF1S	Thallium	71.4	B08LF1	J
B08LF1A	Selenium	52.4	B08LF1	J
B08LF1A	Thallium	75.9	B08LF1	J

9713520.4067 SD-EN-TI-200, Rev. 0

DATA QUALIFICATION SUMMARY

SDG: B08LF1	REVIEWER: DKW	DATE: 9/13/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Aluminum	U	B08LF1	Lab blank contamination
Selenium	J	B08LF1	Matrix spike recovery
Thallium	J	B08LF1	Matrix spike recovery
Selenium	J	B08LF1	GFAA Analytical spike recovery
Thallium	J	B08LF1	GFAA Analytical spike recovery

9713520.1069

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INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Page 1 of 1

Project: WESTINGHOUSE-HANFORD																							
Laboratory: TMA																							
Case	SDG: B08LF4																						
Sample Number		B08LF4																					
Location		699-73-61																					
Remarks		Split																					
Sample Date		06/17/93																					
Inorganic Analytes	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	23.5	U																				
Antimony	60	17.9	U																				
Arsenic	10	3.7																					
Barium	200	29.6																					
Beryllium	5	0.50	U																				
Cadmium	5	1.7	U																				
Calcium	5000	36800																					
Chromium	10	7.9																					
Cobalt	50	3.8	U																				
Copper	25	4.2	U																				
Iron	100	56.1	U																				
Lead	3	4.2																					
Magnesium	5000	9830																					
Manganese	15	10.6																					
Mercury	0.2	0.13	U																				
Nickel	40	6.1	U																				
Potassium	5000	4520																					
Selenium	5	10.4	J																				
Silver	10	3.8	U																				
Sodium	5000	19300																					
Thallium	10	3.0	UJ																				
Vanadium	50	7.7																					
Zinc	20	107																					
Cyanide	10	10.0	U																				

BLANK AND SAMPLE DATA SUMMARY

SDG: B08LF4	REVIEWER: CH			DATE: 9/20/93				PAGE 1 OF 1	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
PBW	Iron	20.92			ug/L	104.5	209	B08LF4	U
PBW	Mercury	0.100			ug/L	0.500	1.00	B08LF4	U

9713520.1020
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9713520.1071

ACCURACY DATA SUMMARY

SDG: B08LF4	REVIEWER: CH	DATE: 9/20/93	PAGE 1 OF 1	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08LF4A	Thallium	48.0	B08LF4	J
B08LF4A	Selenium	26.3	B08LF4	J

DATA QUALIFICATION SUMMARY

SDG: B08LF4	REVIEWER: CH	DATE: 9/20/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Iron	U	B08LF4	Blank contamination
Mercury	U	B08LF4	Blank contamination
Thallium	J	B08LF4	GFAA analytical spike
Selenium	J	B08LF4	GFAA analytical spike

9713520.1073

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INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Page 1 of 1

Project: WESTINGHOUSE-HANFORD																							
Laboratory: TMA																							
Case	SDG: B08LF5																						
Sample Number		B08LF5																					
Location		699-73-61																					
Remarks		Split, FIL																					
Sample Date		06/17/93																					
Inorganic Analytes	CRQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Aluminum	200	23.5	U																				
Antimony	60	17.9	U																				
Arsenic	10	3.8																					
Barium	200	30.2																					
Beryllium	5	0.50	U																				
Cadmium	5	1.7	U																				
Calcium	5000	36000																					
Chromium	10	8.0																					
Cobalt	50	3.8	U																				
Copper	25	4.2	U																				
Iron	100	18.9	U																				
Lead	3	2.1																					
Magnesium	5000	9680																					
Manganese	15	9.4																					
Mercury	0.2	0.12	U																				
Nickel	40	6.1	U																				
Potassium	5000	4690																					
Selenium	5	12.0	UJ																				
Silver	10	3.8	U																				
Sodium	5000	18700																					
Thallium	10	3.0	UJ																				
Vanadium	50	11.8																					
Zinc	20	7.4																					
Cyanide	10	N/A																					

BLANK AND SAMPLE DATA SUMMARY

SDG: B08LF5	REVIEWER: CH			DATE: 9/20/93				PAGE 1 OF 1	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
PBW	Iron	11.35			ug/L	56.75	113.5	B08LF5	U
PBW	Mercury	0.100			ug/L	0.500	1.00	B08LF5	U

9713520.1024
WHC-SD-EN-TI-200, Rev. 0

ACCURACY DATA SUMMARY

SDG: B08LF5	REVIEWER: CH	DATE: 9/20/93	PAGE 1 OF 1	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08LF4A	Selenium	36.1	B08LF5	J
B08LF4A	Thallium	56.9	B08LF5	J

DATA QUALIFICATION SUMMARY

SDG: B08LF5	REVIEWER: CH	DATE: 9/20/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Iron	U	B08LF5	Lab blank contamination
Mercury	U	B08LF5	Lab blank contamination
Thallium	J	B08LF5	GFAA analytical spike
Selenium	J	B08LF5	GFAA analytical spike

WELL AND SAMPLE INFORMATION					SAMPLE LOCATION INFORMATION
SAMPLE LOCATION	SAMPLE NUMBER	MATRIX	DATE SAMPLED	NV/V	WET CHEMISTRY
199-K-11	B08L05	W	06/04/93	NV	6-5
	B08L08	W	06/04/93	NV	6-6
	B08L09	W	06/04/93	V	6-7
199-K-13	B08L10	W	07/08/93	NV	6-11
	B08L13	W	07/08/93	NV	6-12
	B08L14	W	07/08/93	V	6-13
199-K-18	B08L15	W	06/07/93	NV	6-16
	B08L18	W	06/07/93	NV	6-17
	B08L19	W	06/07/93	V	6-7
199-K-19	B08L20	W	06/15/93	NV	6-18
	B08L23	W	06/15/93	NV	6-19
	B08L24	W	06/15/93	V	6-20
199-K-20	B08L25	W	06/09/93	V	6-24
	B08L28	W	06/09/93	V	6-25
	B08L29	W	06/09/93	V	6-7
	B08LD0	W	06/09/93	V	6-24
	B08LD3	W	06/09/93	V	6-25
	B08LD4	W	06/09/93	V	6-8
	B08LF0	W	06/09/93	V	6-59, 6-60
	B08LF3	W	06/09/93	V	6-8
199-K-21	B08L30	W	06/25/93	V	6-29
	B08L33	W	06/25/93	V	6-30
	B08L34	W	06/25/93	V	6-20
199-K-22	B08L35	W	06/08/93	NV	6-32
	B08L38	W	06/08/93	NV	6-33
	B08L39	W	06/08/93	V	6-7
199-K-23	B08L40	W	07/06/93	NV	6-34
	B08L43	W	07/06/93	NV	6-35
	B08L44	W	07/06/93	V	6-13
199-K-27	B08L45	W	06/04/93	NV	6-5
	B08L48	W	06/04/93	NV	6-6
	B08L49	W	06/04/93	V	6-7
199-K-30	B08L50	W	06/03/93	NV	6-36
	B08L53	W	06/03/93	NV	6-37
	B08L54	W	06/03/93	NV	6-38
199-K-31	B08L55	W	06/16/93	V	6-39
	B08L58	W	06/16/93	V	6-40
	B08L59	W	06/16/93	V	6-20

WELL AND SAMPLE INFORMATION					SAMPLE LOCATION INFORMATION
SAMPLE LOCATION	SAMPLE NUMBER	MATRIX	DATE SAMPLED	NV/V	WET CHEMISTRY
199-K-32A	B08L60	W	06/14/93	V	6-44
	B08L63	W	06/14/93	V	6-45
	B08L64	W	06/14/93	V	6-20
199-K-32B	B08L65	W	07/07/93	NV	6-49
	B08L68	W	07/07/93	NV	6-50
	B08L69	W	07/07/93	V	6-13
199-K-33	B08L70	W	06/10/93	NV	6-51
	B08L73	W	06/10/93	NV	6-52
	B08L74	W	06/10/93	V	6-7
199-K-34	B08L75	W	06/01/93	NV	6-53
	B08L78	W	06/01/93	NV	6-54
	B08L79	W	06/01/93	V	6-7
199-K-35	B08L80	W	06/02/93	NV	6-55
	B08L83	W	06/02/93	NV	6-56
	B08L84	W	06/02/93	V	6-7
199-K-36	B08L85	W	06/02/93	NV	6-55
	B08L88	W	06/02/93	NV	6-56
	B08L89	W	06/02/93	V	6-7
199-K-37	B08L90	W	06/26/93	V	6-29
	B08L93	W	06/26/93	V	6-30
	B08L94	W	06/26/93	V	6-20
699-70-68	B08L95	W	06/18/93	NV	6-57
	B08L98	W	06/18/93	NV	6-58
	B08L99	W	06/18/93	V	6-20
699-78-62	B08LB0	W	06/26/93	V	6-29
	B08LB3	W	06/26/93	V	6-30
	B08LB4	W	06/26/93	V	6-20
699-73-61	B08LB5	W	06/17/93	V	6-39
	B08LB8	W	06/17/93	V	6-40
	B08LB9	W	06/17/93	V	6-20
	B08LD5	W	06/17/93	V	6-39
	B08LD8	W	06/17/93	V	6-40
	B08LD9	W	06/17/93	V	6-21
	B08LF4	W	06/17/93	V	6-65, 6-66
	B08LF7	W	06/17/93	V	6-21
EB-1	B08LC0	W	06/26/93	V	6-29
	B08LC3	W	06/26/93	V	6-30
	B08LC4	W	06/26/93	V	6-20

WELL AND SAMPLE INFORMATION					SAMPLE LOCATION INFORMATION
SAMPLE LOCATION	SAMPLE NUMBER	MATRIX	DATE SAMPLED	NV/V	WET CHEMISTRY
EB-2	B08LC5	W	07/06/93	NV	6-34
	B08LC8	W	07/06/93	NV	6-35
	B08LC9	W	07/06/93	V	6-13

6.0 WET CHEMISTRY DATA VALIDATION

6.1 DATA PACKAGE COMPLETENESS

The following data packages (SDG Nos.) were submitted for validation and found to be complete:

B08L09	B08L25	B08L33	B08L60	B08LF0
B08L14	B08L28	B08L55	B08L63	B08LF4
B08L24	B08L30	B08L58		

6.2 HOLDING TIMES

Analytical holding times for alkalinity, ammonia, nitrogen, chloride, COD, fluoride, hydrazine, nitrate-nitrite, pH, phosphate, specific conductance, sulfate, sulfide, TDS, TOC and TOX were assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: 28 days for ammonia-nitrogen, chloride, COD, fluoride, NO3NO2, specific conductance, sulfate and TOC; 14 days for alkalinity and hydrazine; seven days for sulfide, TDS and TOX; 72 hours for pH; and 48 hours for phosphate.

The 72 hour holding time for pH was exceeded and all associated results were flagged "J" in the following samples:

- Sample numbers B08L55, B08LB5 and B08LD5 in SDG No. B08L55.
- Sample number B08LF0 in SDG No. B08LF0.
- Sample number B08LF4 in SDG No. B08LF4.

The 48 hour holding time for phosphate was exceeded and all associated results were flagged "J" in the following samples:

- Sample numbers B08L25 and B08LD0 in SDG No. B08L25.
- Sample numbers B08L55, B08LB5 and B08LD5 in SDG No. B08L55.
- Sample number B08L60 in SDG No. B08L60.
- Sample number B08LF4 in SDG No. B08LF4.

The 48 hour holding time for phosphate was grossly exceeded and all associated results were flagged "R" in sample number B08LF0 in SDG No. B08LF0.

The 14 day holding time for hydrazine was exceeded and all associated results were flagged "J" in the following samples:

- Sample number B08L79 in SDG No. B08L09.
- Sample numbers B08L44 and B08LC9 in SDG No. B08L14.
- Sample numbers B08L24, B08L59, B08L64, B08L99, B08LB9, B08LD9 and B08LF7 in SDG No. B08L24.

Holding times for all other analytes reviewed met QC requirements.

6.3 CALIBRATIONS

The laboratory failed to check the titrant normality for the alkalinity analyses in SDG Nos. B08L25, B08L30, B08L55 and B08L60. All associated results were rejected and flagged "R".

Instrument calibrations were not performed for the TOX analyses in SDG Nos. B08L25, B08L30, B08L55 and B08L60. All associated results were rejected and flagged "R".

Insufficient instrument calibrations were performed for the sulfide, COD, specific conductance and TOX analyses in SDG Nos. B08LF0 and B08LF4. All associated results were rejected and flagged "R".

6.3.1 Initial Calibration

The following calibration procedures must be conducted:

- At least a blank and three standards were used to establish the ion chromatography, ion selective electrode, spectrophotometer, TOC analyzer and TOX analyzer calibrations prior to sample analysis and the correlation was $\geq$0.995.

All initial calibration results were acceptable.

6.3.2 Continuing Calibration Verification

All CCV standards must be analyzed with the required frequency or every 20 samples. The percent recoveries must fall within the 90-110% acceptance windows.

The laboratory failed to perform a CCV for the ammonia nitrogen and TOC analyses for SDG No. B08LF0. All associated results were qualified as estimates and flagged "J".

All other continuing calibration results were acceptable.

6.4 BLANKS

One laboratory preparation blank is analyzed at a frequency of one every 20 samples. All blank results must fall below the CRQL and if not, all associated data <5 times the amount found in the blank is qualified as non-detected "U".

All laboratory blank results were acceptable.

6.5 ACCURACY

6.5.1 Matrix Spike Recovery

Matrix spike analyses are used to assess the analytical accuracy of the reported data and the effect of the matrix on the ability to accurately quantify sample concentrations.

The matrix spike recovery for NO3NO2 fell below the limit and all associated sample results were qualified as estimates and flagged "J".

- Sample numbers B08L25 and B08LD0 in SDG No. B08L25.
- Sample numbers B08L55, B08LB5 and B08LD5 in SDG No. B08L55.

The matrix spike recovery for TOC fell below the limit and the associated sample result qualified as an estimate and flagged "J" for sample number B08L60 in SDG No. B08L60.

All other matrix spike results were acceptable.

6.5.2 Laboratory Control Sample Recovery

The LCS monitors the overall performance of the analysis, including the sample preparation. An LCS should be prepared (e.g., digested or distilled) and analyzed with every group of samples which have been prepared together. The performance criteria for aqueous LCS percent recovery is 80 to 120 percent. The performance criteria for solid LCS samples are established through interlaboratory studies coordinated by a certifying agency (e.g., EPA or an independent commercial supplier).

ICV results obtained from the raw data were used to calculate LCS results. All LCS results were found to be acceptable.

6.6 PRECISION

Analytical duplicate sample analyses are used to measure laboratory precision and sample homogeneity. Field duplicate

analyses are used to measure both the laboratory and the field sampling procedure precision.

All duplicate analyses results were acceptable for this data.

6.7 ANALYTE QUANTITATION AND DETECTION LIMITS

Sample results and reported detection limits were recalculated to ensure that the reported results were accurate. Raw data were examined for anomalies, transcription errors, and reduction errors. In addition, the reviewer verified that the results fell within the linear range of the instrument.

6.8 OVERALL ASSESSMENT AND SUMMARY

A review of instrument continuing calibration information and QC data indicate that instrument performance was adequate for most analyses. Holding times were exceeded for pH, phosphate and hydrazine in several samples. Associated results were flagged accordingly. The matrix spike recovery for NO3NO2 and TOC did not meet QC requirements in three separate SDGs. All associated results were qualified as estimates. The alkalinity and TOX results for all samples in four SDGs were rejected due to the laboratory's failure to perform sufficient calibrations. The sulfide, COD, specific conductance and TOX analyses results were rejected in two other SDGs for the same reason. Rejected results are not usable for any purpose and should not be reported. Estimated results are usable for limited purposes only. All other validated results are considered accurate within the standard error associated with the methods.

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L05																		
Sample Number		B08L05		B08L45															
Location		199-K-11		199-K-27															
Remarks		NV		NV															
Sample Date		06/04/93		06/04/93															
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	120		140															
Chloride	300.0	6.1		11.1															
Fluoride	300.0	0.50	U	0.50	U														
COD	410.1	5.0	U	5.0	U														
Phosphate	300.0	0.25	U	0.25	U														
Sulfate	300.0	30.3		19.3															
N03N02 (mg N/L)	353.2	4.9		1.9															
Ammonia, as N	350.3	0.10	U	0.10	U														
pH (pH units)	150.1	7.2		7.3															
Sulfide		0.10	U	0.10	U														
TDS	160.2	236		248															
Specific Conductance (umhos/cm)	120.1	298		329															

NV = Not Validated

9713520.1084
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L08																		
Sample Number		B08L08		B08L48															
Location		199-K-11		199-K-27															
Remarks		NV		NV															
Sample Date		06/04/93		06/04/93															
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	0.55		0.75															
TOX (ug/L)	9020.0	10		25.5															

NV = Not Validated

9713520.1085
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: DataChem																			
Case	SDG: B08L09																		
Sample Number		B08L09		B08L19		B08L29		B08L39		B08L49		B08L74		B08L79		B08L84		B08L89	
Location		199-K-11		199-K-18		199-K-20		199-K-22		199-K-27		199-K-33		199-K-34		199-K-35		199-K-36	
Remarks																			
Sample Date		06/04/93		06/07/93		06/09/93		06/08/93		06/04/93		06/10/93		06/01/93		06/02/93		06/02/93	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Hydrazine	D1385	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	UJ	3.0	U	3.0	U

DUP = Duplicate

9713520.1086
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: DataChem																			
Case	SDG: B08L09																		
Sample Number		B08LD4		B08LF3															
Location		199-K-20		199-K-20															
Remarks		DUP		Split															
Sample Date		06/09/93		06/09/93															
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Hydrazine	D1385	3.0	U	3.0	U														

DUP = Duplicate

9713520.1087
WHC-SD-EN-TI-200, Rev. 0

9713520.1088

HOLDING TIME SUMMARY

SDG: B08L09	REVIEWER: DKW			DATE: 9/11/93		PAGE 1 OF 1	
COMMENTS:							
FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
B08L79	Hydrazine	6/1/93	–	6/16/93	–	14	J

DATA QUALIFICATION SUMMARY

SDG: B08L09	REVIEWER: DKW	DATE: 9/11/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Hydrazine	J	B08L79	Holding Times Exceeded

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L10																		
Sample Number		B08L10																	
Location		199-K-13																	
Remarks		NV																	
Sample Date		07/08/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	120																	
Chloride	300.0	7.6																	
Fluoride	300.0	0.50	U																
COD	410.1	5.0	U																
Phosphate	300.0	0.25	U																
Sulfate	300.0	40.8																	
N03N02 (mg N/L)	353.2	2.9																	
Ammonia, as N	350.3	0.10	U																
pH (pH units)	150.1	7.7																	
Sulfide		0.10	U																
TDS	160.2	232																	
Specific Conductance	120.1	342																	
(umhos/cm)																			

NV = Not Validated

9713520.1090 WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L13																		
Sample Number		B08L13																	
Location		199-K-13																	
Remarks		NV																	
Sample Date		07/08/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	0.67																	
TOX (ug/L)	9020.0	20.0	U																

NV = Not Validated

9713520.1601 SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: DataChem																			
Case	SDG: B08L14																		
Sample Number		B08L14		B08L44		B08L69		B08LC9											
Location		199-K-13		199-K-23		199-K-32B		EB-2											
Remarks																			
Sample Date		07/08/93		07/06/93		07/07/93		07/06/93											
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Hydrazine	D1385	3.0	U	3.0	UJ	3.0	U	3.0	UJ										

EB = Equipment Blank

9713520.1092
WHC-SD-EN-TI-200, Rev. 0

HOLDING TIME SUMMARY

SDG: B08L14	REVIEWER: SC			DATE: 9/20/93		PAGE 1 OF 1	
COMMENTS:							
FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
B08L44	Hydrazine	7/6/93		7/21/93		14	J
B08LC9	Hydrazine	7/6/93		7/21/93		14	J

DATA QUALIFICATION SUMMARY

SDG: B08L14	REVIEWER: SC	DATE: 9/20/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Hydrazine	J	B08L44, B08LC9	Holding times exceeded

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L15																		
Sample Number		B08L15																	
Location		199-K-18																	
Remarks		NV																	
Sample Date		06/07/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	46.0																	
Chloride	300.0	22.5																	
Fluoride	300.0	0.50	U																
COD	410.1	5.0	U																
Phosphate	300.0	0.25	U																
Sulfate	300.0	62.0																	
N03N02 (mg N/L)	353.2	26.0																	
Ammonia, as N	350.3	0.10	U																
pH (pH units)	150.1	8.7																	
Sulfide		0.10	U																
TDS	160.2	442																	
Specific Conductance	120.1	468																	
(umhos/cm)																			

NV = Not Validated

9713520.1095 WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L18																		
Sample Number		B08L18																	
Location		199-K-18																	
Remarks		NV																	
Sample Date		06/07/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	0.75																	
TOX (ug/L)	9020.0	20.0	U																

NV = Not Validated

9713520.1096
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L20																		
Sample Number		B08L20																	
Location		199-K-19																	
Remarks		NV																	
Sample Date		06/15/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	86.0																	
Chloride	300.0	6.2																	
Fluoride	300.0	0.50	U																
COD	410.1	5.0	U																
Phosphate	300.0	0.25	U																
Sulfate	300.0	53.4																	
N03N02 (mg N/L)	353.2	11.7																	
Ammonia, as N	350.3	0.10	U																
pH (pH units)	150.1	7.6																	
Sulfide		0.10	U																
TDS	160.2	292																	
Specific Conductance	120.1	322																	
(umhos/cm)																			

9713520.1097

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L23																		
Sample Number		B08L23																	
Location		199-K-19																	
Remarks		NV																	
Sample Date		06/15/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	1.3																	
TOX (ug/L)	9020.0	20.0	U																

9713520.1008
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: DataChem																			
Case	SDG: B08L24																		
Sample Number		B08L24		B08L34		B08L59		B08L64		B08L94		B08L99		B08LB4		B08LB9		B08LC4	
Location		199-K-19		199-K-21		199-K-31		199-K-32A		199-K-37		699-70-68		699-78-62		699-73-61		EB-1	
Remarks																			
Sample Date		06/15/93		06/25/93		06/16/93		06/14/93		06/26/93		06/18/93		06/26/93		06/17/93		06/26/93	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Hydrazine	D1385	3.0	UJ	3.0	U	3.0	UJ	3.0	UJ	3.0	U	3.0	UJ	3.0	U	3.0	UJ	3.0	U

DUP = Duplicate

9713520.1099
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (ug/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: DataChem																			
Case	SDG: B08L24																		
Sample Number		B08LD9		B08LF7															
Location		699-73-61		699-73-61															
Remarks		DUP		Split															
Sample Date		06/17/93		06/17/93															
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Hydrazine	D1385	3.0	UJ	3.0	UJ														

DUP = Duplicate

9713520.1100

HOLDING TIME SUMMARY

SDG:B08L24	REVIEWER: DKW			DATE: 9/12/93		PAGE 1 OF 1	
COMMENTS:							
FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
B08L24	Hydrazine	6/15/93	--	7/9/93	--	14	J
B08L59	Hydrazine	6/16/93	--	7/9/93	--	14	J
B08L64	Hydrazine	6/14/93	--	7/9/93	--	14	J
B08L99	Hydrazine	6/18/93	--	7/9/93	--	14	J
B08LB9	Hydrazine	6/17/93	--	7/9/93	--	14	J
B08LD9	Hydrazine	6/17/93	--	7/9/93	--	14	J
B08LF7	Hydrazine	6/17/93	--	7/9/93	--	14	J

9713520.1101
WHC-SD-EN-TI-200, Rev. 0

DATA QUALIFICATION SUMMARY

SDG: B08L24	REVIEWER: DKW	DATE: 9/12/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Hydrazine	J	B08L24, B08L59, B08L64, B08L99, B08LB9, B08LD9, B08LF7	Holding Time Exceeded

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L25																		
Sample Number		B08L25		B08LD0															
Location		199-K-20		199-K-20															
Remarks				DUP															
Sample Date		06/09/93		06/09/93															
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	86.0	R	80.0	R														
Chloride	300.0	5.2		5.2															
Fluoride	300.0	0.50	U	0.50	U														
COD	410.1	5.0	U	5.0	U														
Phosphate	300.0	0.25	UJ	0.25	UJ														
Sulfate	300.0	53.1		53.3															
N03N02 (mg N/L)	353.2	0.41	J	4.0	J														
Ammonia, as N	350.3	0.10	U	0.10	U														
pH (pH units)	150.1	8.3		8.6															
Sulfide		0.10	U	0.10	U														
TDS	160.2	202		184															
Specific Conductance (umhos/cm)	120.1	237		252															

DUP = Duplicate

9713520.1103
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L28																		
Sample Number		B08L28		B08LD3															
Location		199-K-20		199-K-20															
Remarks				DUP															
Sample Date		06/09/93		06/09/93															
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	0.77		0.50	U														
TOX (ug/L)	9020.0	5.0	R	20.0	R														

DUP = Duplicate

9713520.1104
WHC-SD-EN-TI-200, Rev. 0

HOLDING TIME SUMMARY

SDG: B08L25	REVIEWER: KG			DATE: 9/10/93		PAGE 1 OF 1	
COMMENTS:							
FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
B08L25	Phosphate	6/9/93		6/14/93		2	J
B08LD0	Phosphate	6/9/93		6/14/93		2	J

ACCURACY DATA SUMMARY

SDG: B08L25	REVIEWER: KG	DATE: 9/10/93	PAGE_1_OF_1_	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08LD0S	Nitrate/Nitrite	58.1	B08L25, B08LD0	J

DATA QUALIFICATION SUMMARY

SDG: B08L25	REVIEWER: KG	DATE: 9/10/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Alkalinity	R	B08L25, B08LD0	Titrant Normality Not Checked
Nitrate/Nitrite	J	B08L25, B08LD0	Matrix Spike Recovery
Phosphate	J	B08L25, B08LD0	Holding Time Exceeded
TOX	R	B08L28, B08LD3	No Instrument Calibration Performed

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L30																		
Sample Number		B08L30		B08L90		B08LB0		B08LC0											
Location		199-K-21		199-K-37		699-78-62		EB-1											
Remarks																			
Sample Date		06/25/93		06/26/93		06/26/93		06/26/93											
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	68	R	88.0	R	110	R	0.50	R										
Chloride	300.0	5.9		4.4		7.9		0.25	U										
Fluoride	300.0	0.50	U	0.50	U	0.50	U	0.50	U										
COD	410.1	5.0	U	5.0	U	5.0	U	5.0	U										
Phosphate	300.0	0.25	U	0.25	U	0.25	U	0.25	U										
Sulfate	300.0	53.7		34.5		52.5		0.25	U										
N03N02 (mg N/L)	353.2	3.8		1.5		2.6		0.10	U										
Ammonia, as N	350.3	0.10	U	0.10	U	0.10	U	0.10	U										
pH (pH units)	150.1	7.9		7.8		7.8		8.3											
Sulfide		0.10	U	0.10	U	0.10	U	0.10	U										
TDS	160.2	200		209		248		5.0											
Specific Conductance	120.1	297		279		367		1.0	U										
(umhos/cm)																			

EB = Equipment Blank

9713520.1108
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L33																		
Sample Number		B08L33		B08L93		B08LB3		B08LC3											
Location		199-K-21		199-K-37		699-78-62		EB-1											
Remarks																			
Sample Date		06/25/93		06/26/93		06/26/93		06/26/93											
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	1.1		0.50	U	0.50	U	0.50	U										
TOX (ug/L)	9020.0	5.0	R	20.0	R	6.1	R	5.0	R										

EB = Equipment Blank

9713520.1109
WHC-SD-EN-TI-200, Rev. 0

DATA QUALIFICATION SUMMARY

SDG: B08L30	REVIEWER: KG	DATE: 9/10/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Alkalinity	R	B08L30, B08L90, B08LB0, B08LCO	No Titrant Normality Check
TOX	R	B08L33, B08L93, B08LB3, B08LC3	No Instrument Calibration Performed

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L35																		
Sample Number		B08L35																	
Location		199-K-22																	
Remarks		NV																	
Sample Date		06/08/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	90.0																	
Chloride	300.0	6.6																	
Fluoride	300.0	0.50	U																
COD	410.1	5.0	U																
Phosphate	300.0	0.25	U																
Sulfate	300.0	54.0																	
N03N02 (mg N/L)	353.2	4.7																	
Ammonia, as N	350.3	0.10	U																
pH (pH units)	150.1	7.3																	
Sulfide		0.10	U																
TDS	160.2	182																	
Specific Conductance	120.1	334																	
(umhos/cm)																			

NV = Not Validated

9713520.1111
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L38																		
Sample Number		B08L38																	
Location		199-K-22																	
Remarks		NV																	
Sample Date		06/08/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	0.50	U																
TOX (ug/L)	9020.0	20.0	U																

NV = Not Validated

9713520.1112
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L40																		
Sample Number		B08L40		B08LC5															
Location		199-K-23		EB-2															
Remarks		NV		NV															
Sample Date		07/06/93		07/06/93															
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	140		0.50	U														
Chloride	300.0	6.3		0.25	U														
Fluoride	300.0	0.50	U	0.50	U														
COD	410.1	5.0	U	5.0	U														
Phosphate	300.0	0.25	U	0.25	U														
Sulfate	300.0	37.0		0.25	U														
N03N02 (mg N/L)	353.2	10.6		0.10	U														
Ammonia, as N	350.3	0.10	U	0.10	U														
pH (pH units)	150.1	7.5		7.5															
Sulfide		0.10	U	0.10	U														
TDS	160.2	315		9.0															
Specific Conductance	120.1	384		1.2															
(umhos/cm)																			

EB = Equipment Blank, NV = Not Validated

9713520.1113
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L43																		
Sample Number		B08L43		B08LC8															
Location		199-K-23		EB-2															
Remarks		NV		NV															
Sample Date		07/06/93		07/06/93															
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	2.5		0.56															
TOX (ug/L)	9020.0	20.0	U	5.0	U														

EB = Equipment Blank, NV = Not Validated

9713520.WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L50																		
Sample Number		B08L50																	
Location		199-K-30																	
Remarks		NV																	
Sample Date		06/03/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	130																	
Chloride	300.0	5.3																	
Fluoride	300.0	0.50	U																
COD	410.1	5.0	U																
Phosphate	300.0	0.25	U																
Sulfate	300.0	39.9																	
N03N02 (mg N/L)	353.2	20																	
Ammonia, as N	350.3	0.10	U																
pH (pH units)	150.1	7.6																	
Sulfide		0.10	U																
TDS	160.2	338																	
Specific Conductance	120.1	434																	
(umhos/cm)																			

NV = Not Validated

9713520.1115
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L53																		
Sample Number		B08L53																	
Location		199-K-30																	
Remarks		NV																	
Sample Date		06/03/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	1.4																	
TOX (ug/L)	9020.0	20.0	U																

9713520.1146
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: DataChem																			
Case	SDG: B08L54																		
Sample Number		B08L54																	
Location		199-K-30																	
Remarks		NV																	
Sample Date		06/03/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Hydrazine	D1385	3.0	U																

NV = Not Validated

9713520.1112
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L55																		
Sample Number		B08L55		B08LB5		B08LD5													
Location		199-K-31		699-73-61		699-73-61													
Remarks						DUP													
Sample Date		06/16/93		06/17/93		06/17/93													
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	116	R	110	R	112	R												
Chloride	300.0	7.8		8.4		8.6													
Fluoride	300.0	0.50	U	0.50	U	0.50	U												
COD	410.1	5.0	U	5.4		5.0	U												
Phosphate	300.0	0.25	UJ	0.25	U	0.25	UJ												
Sulfate	300.0	23.0		48.5		50.2													
N03N02 (mg N/L)	353.2	3.3	J	3.0	J	4.8	J												
Ammonia, as N	350.3	0.10	U	0.10	U	0.10	U												
pH (pH units)	150.1	7.9	J	7.9	J	7.9	J												
Sulfide		0.10	U	0.10	U	0.10	U												
TDS	160.2	198		235		229													
Specific Conductance	120.1	332		376		384													
(umhos/cm)																			

DUP = Duplicate

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L58																		
Sample Number		B08L58		B08LB8		B08LD8													
Location		199-K-31		699-73-61		699-73-61													
Remarks						DUP													
Sample Date		06/16/93		06/17/93		06/17/93													
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	0.86		0.50	U	0.50	U												
TOX (ug/L)	9020.0	5.7	R	20.0	R	10.0	R												

DUP = Duplicate

9713520.1119
WHC-SD-EN-TI-200, Rev. 0

HOLDING TIME SUMMARY

SDG: B08L55	REVIEWER: DKW			DATE: 9/14/93		PAGE 1 OF 1	
COMMENTS:							
FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
B08LB5	pH	6/17/93	--	6/21/93	--	3	J
B08LD5	pH	6/17/93	--	6/21/93	--	3	J
B08L55	pH	6/16/93	--	6/21/93	--	3	J
B08LB5	Phosphate	6/17/93	--	6/24/93	--	2	J
B08LD5	Phosphate	6/17/93	--	6/24/93	--	2	J
B08L55	Phosphate	6/16/93	--	6/24/93	--	2	J

ACCURACY DATA SUMMARY

SDG: B08L55	REVIEWER: DKW	DATE: 9/14/93	PAGE 1 OF 1	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08L55S	Nitrate/Nitrite	70.2	B08LB5, B08LD5, B08L55	J

9713520.1121
WHC-SD-EN-TI-200, Rev. 0

DATA QUALIFICATION SUMMARY

SDG: B08L55	REVIEWER: DKW	DATE: 9/14/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
pH	J	B08L55, B08LB5, B08LD5	Holding Times Exceeded
Phosphate	J	B08L55, B08LB5, B08LD5	Holding Times Exceeded
Alkalinity	R	B08L55, B08LB5, B08LD5	Titrant Normality Not Verified
TOX	R	B08L58, B08LB8, B08LD8	Instrument Calibration Not Performed
Nitrate/Nitrite	J	B08L55, B08LB5, B08LD5	Matrix Spike Recovery

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L60																		
Sample Number		B08L60																	
Location		199-K-32A																	
Remarks																			
Sample Date		06/14/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	94.0	R																
Chloride	300.0	3.8																	
Fluoride	300.0	0.50	U																
COD	410.1	5.0	U																
Phosphate	300.0	0.25	UJ																
Sulfate	300.0	30.8																	
N03N02 (mg N/L)	353.2	2.9																	
Ammonia, as N	350.3	0.10	U																
pH (pH units)	150.1	7.5																	
Sulfide		0.10	U																
TDS	160.2	228																	
Specific Conductance	120.1	265																	
(umhos/cm)																			

9713520.WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L63																		
Sample Number		B08L63																	
Location		199-K-32A																	
Remarks																			
Sample Date		06/14/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	3.9	J																
TOX (ug/L)	9020.0	20.0	R																

9713520.1124
WHC-SD-EN-TI-200, Rev. 0

HOLDING TIME SUMMARY

SDG: B08L60	REVIEWER: DKW			DATE: 9/11/93		PAGE 1 OF 1	
COMMENTS:							
FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
B08L60	Phosphate	6/14/93	--	6/18/93	--	2	J

9713520.1125
WHC-SD-EN-TI-200, Rev. 0

ACCURACY DATA SUMMARY

SDG: B08L60	REVIEWER: DKW	DATE: 9/11/93	PAGE 1 OF 1	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B08L63S	TOC	73.8	B08L63	J

DATA QUALIFICATION SUMMARY

SDG: B08L60	REVIEWER: DKW	DATE: 9/11/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Alkalinity	R	B08L60	Titrant Normality Not Verified
TOX	R	B08L63	Instrument Calibration Data Not Provided
Phosphate	J	B08L60	Holding Times Exceeded
TOC	J	B08L63	Matrix Spike Recovery

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L65																		
Sample Number		B08L65																	
Location		199-K-32B																	
Remarks		NV																	
Sample Date		07/07/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	140																	
Chloride	300.0	5.0																	
Fluoride	300.0	0.50	U																
COD	410.1	5.0	U																
Phosphate	300.0	0.25	U																
Sulfate	300.0	36.5																	
N03N02 (mg N/L)	353.2	2.5																	
Ammonia, as N	350.3	0.10	U																
pH (pH units)	150.1	7.8																	
Sulfide		0.10	U																
TDS	160.2	250																	
Specific Conductance (umhos/cm)	120.1	413																	

NV = Not Validated

9713520.1428
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L68																		
Sample Number		B08L68																	
Location		199-K-32B																	
Remarks		NV																	
Sample Date		07/07/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	0.56																	
TOX (ug/L)	9020.0	20.0	U																

NV = Not Validated

9713520.1129
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L70																		
Sample Number		B08L70																	
Location		199-K-33																	
Remarks		NV																	
Sample Date		06/10/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	110																	
Chloride	300.0	13.6																	
Fluoride	300.0	0.50	U																
COD	410.1	5.0	U																
Phosphate	300.0	0.25	U																
Sulfate	300.0	85.2																	
N03N02 (mg N/L)	353.2	22.6																	
Ammonia, as N	350.3	0.10	U																
pH (pH units)	150.1	7.5																	
Sulfide		0.10	U																
TDS	160.2	453																	
Specific Conductance	120.1	538																	
(umhos/cm)																			

9713520.1130 WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L73																		
Sample Number		B08L73																	
Location		199-K-33																	
Remarks		NV																	
Sample Date		06/10/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	1.3																	
TOX (ug/L)	9020.0	30.5																	

NV = Not Validated

9713520.1131
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L75																		
Sample Number		B08L75																	
Location		199-K-34																	
Remarks		NV																	
Sample Date		06/01/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	170																	
Chloride	300.0	15.8																	
Fluoride	300.0	0.50	U																
COD	410.1	5.0	U																
Phosphate	300.0	0.25	U																
Sulfate	300.0	33.5																	
N03N02 (mg N/L)	353.2	5.4																	
Ammonia, as N	350.3	0.10	U																
pH (pH units)	150.1	7.9																	
Sulfide		0.10	U																
TDS	160.2	300																	
Specific Conductance	120.1	464																	
(umhos/cm)																			

NV = Not Validated

9713520.1172
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L78																		
Sample Number		B08L78																	
Location		199-K-34																	
Remarks		NV																	
Sample Date		06/01/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	1.4																	
TOX (ug/L)	9020.0	20.0	U																

NV = Not Validated

9713520.1133 WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L80																		
Sample Number		B08L80		B08L85															
Location		199-K-35		199-K-36															
Remarks		NV		NV															
Sample Date		06/02/93		06/02/93															
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	120		120															
Chloride	300.0	7.7		2.6															
Fluoride	300.0	0.50	U	0.50	U														
COD	410.1	5.0	U	5.0	U														
Phosphate	300.0	0.25	U	0.25	U														
Sulfate	300.0	25.4		25.7															
N03N02 (mg N/L)	353.2	2.3		1.8															
Ammonia, as N	350.3	0.10	U	0.10	U														
pH (pH units)	150.1	7.9		7.9															
Sulfide		0.10	U	0.10	U														
TDS	160.2	205		201															
Specific Conductance	120.1	245		239															
(umhos/cm)																			

NV – Not Validated

9713520.1434
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L83																		
Sample Number		B08L83		B08L88															
Location		199-K-35		199-K-36															
Remarks		NV		NV															
Sample Date		06/02/93		06/02/93															
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	2.3		0.94															
TOX (ug/L)	9020.0	5.0	U	6.6															

NV – Not Validated

9713520.1135
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L95																		
Sample Number		B08L95																	
Location		699-70-68																	
Remarks		NV																	
Sample Date		06/18/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Alkalinity	310.1	112																	
Chloride	300.0	6.0																	
Fluoride	300.0	0.50	U																
COD	410.1	5.0	U																
Phosphate	300.0	0.25	U																
Sulfate	300.0	23.0																	
N03N02 (mg N/L)	353.2	3.4																	
Ammonia, as N	350.3	0.10	U																
pH (pH units)	150.1	7.8																	
Sulfide		0.10	U																
TDS	160.2	204																	
Specific Conductance	120.1	323																	
(umhos/cm)																			

NV - Not Validated

9713520.1136 WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: Roy F. Weston																			
Case	SDG: B08L98																		
Sample Number		B08L98																	
Location		699-70-68																	
Remarks		NV																	
Sample Date		06/18/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
TOC	415.1	1.2																	
TOX (ug/L)	9020.0	20.0	U																

NV = Not Validated

9713520.1137
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: TMA																			
Case	SDG: B08LF0																		
Sample Number		B08LF0																	
Location		199-K-20																	
Remarks		Split																	
Sample Date		06/09/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloride	300.0	5.0																	
Fluoride	300.0	0.2																	
Phosphate	300.0	0.4	R																
pH (pH units)	9040.0	8.2	J																
Sulfate	300.0	51																	
Alkalinity	310.1	86																	
TDS	160.1	273																	
Sulfide	9030.0	1	R																
Ammonia Nitrogen	350.3	0.05	UJ																
COD	410.0	5	R																
Specific Conductance	120.1	338	R																
(umhos/cm)																			
TOC		1	UJ																
TOX		0.01	R																

9713520.1138 WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg N/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: TMA																			
Case	SDG: B08LF0																		
Sample Number		B08LF0																	
Location		199-K-20																	
Remarks		Split																	
Sample Date		06/09/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
N03N02	353.2	3.22																	

9713520.1438
WHC-SD-EN-TI-200, Rev. 0

HOLDING TIME SUMMARY

SDG: B08LF0	REVIEWER: DKW			DATE: 9/14/93		PAGE 1 OF 1	
COMMENTS:							
FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
B08LF0	pH	6/9/93		6/16/93		3	J
B08LF0	Phosphate	6/9/93		6/24/93		2	R

DATA QUALIFICATION SUMMARY

SDG: B08LF0	REVIEWER: DKW	DATE: 9/14/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
pH	J	B08LF0	Holding time exceeded
Phosphate	R	B08LF0	Holding time grossly exceeded
Sulfide	R	B08LF0	Instrument calibration not performed
COD	R	B08LF0	Instrument calibration not performed
Specific Conductance	R	B08LF0	Instrument calibration not performed
Ammonia Nitrogen	J	B08LF0	CCV not performed

HOLDING TIME SUMMARY

SDG: B08LF0	REVIEWER: DKW			DATE: 9/14/93		PAGE_1_OF_1_	
COMMENTS:							
FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
B08LF0	TOX	6/9/93		6/17/93		7	J

9713520.1942 WHC-SD-EN-TI-200, Rev. 0

DATA QUALIFICATION SUMMARY

SDG: B08LF0	REVIEWER: DKW	DATE: 9/14/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
TOC	J	B08LF0	ICV and CCV analysis not performed
TOX	J	B08LF0	Holding time exceeded
TOX	R	BO8LF0	Instrument calibration not performed

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: TMA																			
Case	SDG: B08LF4																		
Sample Number		B08LF4																	
Location		699-73-61																	
Remarks		Split																	
Sample Date		06/17/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloride	300.0	6.9																	
Fluoride	300.0	0.3																	
Phosphate	300.0	0.4	UJ																
pH (pH units)	9040.0	8.0	J																
Sulfate	300.0	46																	
Alkalinity	310.1	112																	
TDS	160.1	229																	
Sulfide	9030.0	1.0	R																
Ammonia Nitrogen	350.3	0.05	U																
COD	410.2	5.0	R																
Specific Conductance	9050.0	345	R																
(umhos/cm)																			
TOC	415.1	1	U																
TOX	9020.0	0.01	R																

9713520.1144
WHC-SD-EN-TI-200, Rev. 0

WET CHEMISTRY/ANIONS ANALYSIS, WATER MATRIX, (mg N/L)

Project: WESTINGHOUSE-HANFORD																			
Laboratory: TMA																			
Case	SDG: B08LF4																		
Sample Number		B08LF4																	
Location		699-73-61																	
Remarks		Split																	
Sample Date		06/17/93																	
Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
N03N02	353.2	2.37																	

9713520.WHC-SD-EN-TI-200, Rev. 0

HOLDING TIME SUMMARY

SDG: B08LF4	REVIEWER: CH			DATE: 9/20/93		PAGE 1 OF 1	
COMMENTS:							
FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
B08LF4	pH	6/17/93	--	6/24/93	--	3	J
B08LF4	Phosphate	6/17/93	--	6/24/93	--	2	J

DATA QUALIFICATION SUMMARY

SDG: B08LF4	REVIEWER: CH	DATE: 9/20/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
pH	J	B08LF4	Holding Time Exceeded
Phosphate	J	B08LF4	Holding Time Exceeded
Sulfide	R	BO8LF4	Instrument Calibration Not Performed
COD	R	BO8LF4	Instrument Calibration Not Performed
Specific Conductance	R	BO8LF4	Instrument Calibration Not Performed
TOX	R	BO8LF4	Instrument Calibration Not Performed

WELL AND SAMPLE INFORMATION					SAMPLE LOCATION INFORMATION
SAMPLE LOCATION	SAMPLE NUMBER	MATRIX	DATE SAMPLED	NV/V	RADIO-CHEMISTRY
199-K-11	B08L05	W	06/04/93	NV	13-3
199-K-13	B08L10	W	07/08/93	NV	13-4
199-K-18	B08L15	W	06/07/93	NV	13-3
199-K-19	B08L20	W	06/15/93	NV	13-5
199-K-20	B08L25 B08LD0 B08LF0	W W W	06/09/93 06/09/93 06/09/93	V V V	13-6 13-6 13-12
199-K-21	B08L30	W	06/25/93	V	13-7
199-K-22	B08L35	W	06/08/93	V	13-6
199-K-23	B08L40	W	07/07/93	NV	13-8
199-K-27	B08L45	W	06/04/93	NV	13-3
199-K-30	B08L50	W	06/03/93	NV	13-3
199-K-31	B08L55	W	06/16/93	V	13-9
199-K-32A	B08L60	W	06/14/93	V	13-9
199-K-32B	B08L65	W	07/07/93	V	13-8
199-K-33	B08L70	W	06/10/93	V	13-9
199-K-34	B08L75	W	06/01/93	NV	13-10
199-K-35	B08L80	W	06/02/93	NV	13-11
199-K-36	B08L85	W	06/02/93	NV	13-11
199-K-37	B08L90	W	06/26/93	V	13-7
699-70-68	B08L95	W	06/18/93	V	13-9
699-78-62	B08LB0	W	06/26/93	V	13-7
699-73-61	B08LB5 B08LD5 B08LF4	W W W	06/17/93 06/17/93 06/17/93	V V V	13-9 13-9 13-13
EB-1	B08LC0	W	06/26/93	V	13-7
EB-2	B08LC5	W	07/06/93	V	13-8

7.0 GROSS ALPHA AND GROSS BETA DETERMINATION DATA VALIDATION

7.1 DATA PACKAGE COMPLETENESS

The following data packages (SDG Nos.) were submitted for validation and found to be complete:

B08L25	B08L40	B08LF0
B08L30	B08L55	B08LF4

7.2 HOLDING TIMES

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The maximum holding time for this analysis is six months.

All holding times were acceptable.

7.3 INSTRUMENT CALIBRATION AND PERFORMANCE

Instrument calibration is performed to establish that the gas proportional counter used for gross alpha and gross beta determination is capable of producing acceptable and reliable analytical data. The initial calibration was performed according to manufacturer's recommendations and consists of an instrument efficiency determination as a function of alpha or beta particle energy, and as a function of the mass of material submitted for counting. Continuing calibration checks are performed to verify that instrument performance is stable and reproducible on a day-to-day basis.

All calibration results, including efficiency checks and background counts, were acceptable.

7.4 ACCURACY

Accuracy was evaluated by analyzing soil or distilled water samples spiked with known amounts of alpha or beta emitting radionuclides. The sample activity as determined by analysis is compared to the known activity to assess accuracy. Acceptable accuracy of spiked sample data must fall within a range of 80 to 120 percent. If spiked sample results were outside this range, the associated data were qualified as estimated (J/UJ).

Due to a low LCS recovery, the gross alpha result for sample number B08LF0 in SDG No. B08LF0 was qualified as an estimate and flagged "J".

All other accuracy results were acceptable.

7.5 PRECISION

Analytical precision is expressed by the RPD between the recoveries of duplicate matrix spike analyses performed on a sample. When the laboratory has not performed duplicate spike analyses, precision may also be assessed using unspiked duplicate sample analyses. Replicates with activities greater than five times the LLD and with an RPD less than 35 percent are acceptable. If duplicate activities are both <5xLLD, a control limit of 2xLLD is used. If replicate values are both below the LLD, no control limit is applicable. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects (J) or estimated non-detects (UJ).

All precision results were acceptable.

7.6 BLANK SAMPLES

Blank samples are analyzed to determine if positive results are due to laboratory reagent, sample container, or detector contamination.

All blank results were acceptable.

7.7 ANALYTE QUANTITATION AND REPORTED DETECTION LIMITS

Analyte quantitation and detection limits were recalculated for all samples in each data package to verify their accuracy.

All analyte quantitation and reported detection limits were acceptable.

7.8 OVERALL ASSESSMENT AND SUMMARY

A review of instrument continuing calibration information and QC data indicates that instrument performance was adequate for these analyses. The gross alpha result was qualified as an estimate in one sample due to a low LCS recovery. All other validated results were acceptable and usable for all purposes.

8.0 ALPHA SPECTROSCOPY DATA VALIDATION

8.1 DATA PACKAGE COMPLETENESS

The following data packages (SDG Nos.) were submitted for validation and found to be complete:

B08L25	B08L40	B08LF0
B08L30	B08L55	B08LF4

8.2 HOLDING TIMES

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The maximum holding time for this analysis is six months.

All holding times were acceptable.

8.3 INSTRUMENT CALIBRATION AND PERFORMANCE

Instrument calibration is performed to establish that the alpha spectroscopy system used is capable of producing acceptable and reliable analytical data. The initial calibration was performed according to manufacturer's recommendations and consists of an instrument efficiency determination for each alpha radionuclide region of interest, and a system resolution assessment as measured by the full-width at half maximum for each peak. Initial calibration was performed for each counting geometry used during the analysis of Westinghouse-Hanford samples. Continuing calibration checks are performed to verify that instrument performance is stable and reproducible on a day-to-day basis.

Peak width (resolution) in the annual calibration was above the 20 KeV control limit for two SDGs. All alpha spectroscopy results for all samples in SDG Nos. B08L40 and B08L55 have been qualified as estimates and flagged "J".

All other calibration results, including efficiency checks and background counts, were acceptable.

8.4 ACCURACY

Accuracy was evaluated by analyzing soil or distilled water samples spiked with known amounts of alpha emitting radionuclides. The sample activity as determined by analysis is

compared to the known activity to assess accuracy. The acceptable matrix spike or Laboratory Control Sample recovery range is 80 to 120 percent, while that for radiometric yields is 30 to 105%. Spike sample results outside the above ranges resulted in qualification of the associated data as estimated (J/UJ).

Due to low chemical yields, the isotopic plutonium results for sample number B08LF0 in SDG No. B08LF0 and sample number B08LF4 in SDG No. B08LF4 were rejected and flagged "R".

Due to a low chemical yield, the americium-241 result for sample number B08LF4 in SDG No. B08LF4 was rejected and flagged "R".

All other accuracy results were acceptable.

8.5 PRECISION

Analytical precision is expressed by the RPD between the recoveries of duplicate matrix spike analyses performed on a sample. When the laboratory has not performed duplicate spike analyses, precision may also be assessed using unspiked duplicate samples. Replicates with a RPD less than 35 percent are acceptable. If duplicate activities are both <5xLLD, a control limit of 2xLLD is used. If replicate values are both below the LLD, no control limit is applicable. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects (J) or estimated non-detects (UJ).

Due to an RPD above the control limit, the uranium-238 result for sample number B08L90 in SDG No. B08L30 was qualified as an estimate and flagged "J".

All other precision results were acceptable.

8.6 BLANK SAMPLES

Blank samples are analyzed to determine if positive results are due to laboratory reagent, sample container, or detector contamination.

All blank results were acceptable.

8.7 ANALYTE QUANTITATION AND REPORTED DETECTION LIMITS

Analyte quantitations and detection limits were recalculated for all samples in each data delivery package to verify their accuracy.

All analyte quantitation and reported detection limits were acceptable.

8.8 OVERALL ASSESSMENT AND SUMMARY

A complete review of all QC and calibration data indicates that overall system performance was adequate. Due to low yields americium-241 and isotopic plutonium results in two samples were rejected and flagged "R". Rejected results are unusable for all purposes. The uranium-238 result was flagged as an estimate in one sample due to an RPD above control limits. All alpha spectroscopy results from two SDGs were qualified as estimates due to peak widths outside control limits. All other validated data were acceptable and usable for all purposes.

9.0 GAMMA SPECTROSCOPY DATA VALIDATION

9.1 DATA PACKAGE COMPLETENESS

The following data packages (SDG Nos.) were submitted for validation and found to be complete:

B08L25	B08L40	B08LF0
B08L30	B08L55	B08LF4

9.2 HOLDING TIMES

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The maximum holding time for this analysis is six months.

All holding times were acceptable.

9.3 INSTRUMENT CALIBRATION AND PERFORMANCE

Instrument calibration is performed to establish that the gamma spectroscopy system used is capable of producing acceptable and reliable analytical data. The initial calibration was performed according to manufacturer's recommendations and consists of an instrument efficiency determination for each gamma radionuclide region of interest, and a system resolution assessment as measured by the full-width at half maximum for each peak. Initial calibration was performed for each counting geometry used during the analysis of Westinghouse-Hanford samples. Continuing calibration checks are performed to verify that instrument performance is stable and reproducible on a day-to-day basis.

All calibration results, including efficiency checks and background counts, were acceptable.

9.4 ACCURACY

Accuracy was evaluated by analyzing soil or distilled water samples spiked with known amounts of gamma emitting radionuclides. The sample activity as determined by sample analysis is compared to the known activity to assess accuracy. The acceptable spiked recovery range is 80 to 120 percent. If spiked sample results were outside this range the associated data were qualified as estimated (J/UJ).

All accuracy results were acceptable.

9.5 PRECISION

Analytical precision is expressed by the RPD between the recoveries of duplicate matrix spike analyses performed on a sample. When the laboratory has not performed duplicate spike analyses, precision may also be assessed using unspiked duplicate sample analyses. Replicates with a RPD less than 35 percent are acceptable. If duplicate activities are both <5xLLD, a control limit of 2xLLD is used. If replicate values are both below the LLD, no control limit is applicable. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects (J) or estimated non-detects (UJ).

The europium-155 results for sample numbers B08L65 and B08LC5 in SDG No. B08L40 were qualified as estimates and flagged "J" due to RPDs above the control limit.

All other precision results were acceptable.

9.6 BLANK SAMPLES

Blank samples are analyzed to determine if positive results may be due to laboratory reagent, sample container, or detector contamination.

All blank results were acceptable.

9.7 ANALYTE QUANTITATION AND REPORTED DETECTION LIMITS

Analyte quantitations and detection limits were recalculated for all samples in each data delivery package to verify their accuracy.

All analyte quantitation and reported detection limits were acceptable.

9.8 OVERALL ASSESSMENT AND SUMMARY

A review of instrument continuing calibration information and QC data indicates that instrument performance was adequate for these analyses. The europium-155 results for two samples were qualified as estimates due to RPDs above control limits. Estimated data are considered usable for limited purposes only. All other validated results are acceptable and usable for all purposes.

10.0 STRONTIUM-90 DETERMINATION DATA VALIDATION

10.1 DATA PACKAGE COMPLETENESS

The following data packages (SDG Nos.) were submitted for validation and found to be complete:

B08L25	B08L40	B08LF0
B08L30	B08L55	B08LF4

10.2 HOLDING TIMES

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The maximum holding time for this analysis is six months.

All holding times were acceptable.

10.3 INSTRUMENT CALIBRATION AND PERFORMANCE

Instrument calibration is performed to establish that the low background counting system used for strontium-90 determination is capable of producing acceptable and reliable analytical data. The initial calibration was performed according to manufacturer's recommendations and consists of an instrument detection efficiency determination. Continuing calibration checks are performed to verify that instrument performance is stable and reproducible on a day-to-day basis.

All calibration results, including efficiency checks and background counts, were acceptable.

10.4 ACCURACY

All spike recoveries should be within the specified QC range of 80 to 120 percent, while all radiotraced samples should show a radiometric yield or recovery between 30 and 105%. Spiked sample results outside the above ranges resulted in qualification of the associated data as estimated.

All accuracy results were acceptable.

10.5 PRECISION

Analytical precision is expressed by the RPD between the recoveries of duplicate matrix spike analyses performed on a sample. When the laboratory has not performed duplicate spike analyses, precision may also be assessed using unspiked duplicate sample analyses. Replicates with an RPD less than 35 percent are acceptable. If duplicate activities are both <5xLLD, a control limit of 2xLLD is used. If replicate values are both below the LLD, no control limit is applicable. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects (J) or estimated non-detects (UJ).

All precision results were acceptable.

10.6 BLANK SAMPLES

Blank samples are analyzed to determine if positive results may be due to laboratory reagent, sample container, or detector contamination.

All blank results were acceptable.

10.7 ANALYTE QUANTITATION AND REPORTED DETECTION LIMITS

Analyte quantitation and detection limits were recalculated for all samples in each data delivery package to verify their accuracy.

All analyte quantitation and reported detection limits were acceptable.

10.8 OVERALL ASSESSMENT AND SUMMARY

A review of instrument continuing calibration information and QC data indicates that instrument performance was adequate for these analyses. All validated results are acceptable and usable for all purposes.

11.0 TECHNETIUM-99 DETERMINATION DATA VALIDATION

11.1 DATA PACKAGE COMPLETENESS

The following data packages (SDG Nos.) were submitted for validation and found to be complete:

B08L25	B08L40	B08LF0
B08L30	B08L55	B08LF4

11.2 HOLDING TIMES

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The maximum holding time for this analysis is six months.

All holding times were acceptable.

11.3 INSTRUMENT CALIBRATION AND PERFORMANCE

Instrument calibration is performed to establish that the low background counting system used for technetium-99 determination is capable of producing acceptable and reliable analytical data. The initial calibration was performed according to manufacturer's recommendations and consists of an instrument detection efficiency determination. Continuing calibration checks are performed to verify that instrument performance is stable and reproducible on a day-to-day basis.

The technetium-99 results for all samples in SDG No. B08L25 were qualified as estimates and flagged "J" due to detector efficiency continuing calibration results outside of the QC range.

All other calibration results, including efficiency checks and background counts, were acceptable.

11.4 ACCURACY

All spike recoveries should be within the specified QC range of 80 to 120 percent, while all radiotraced samples should show a radiometric yield or recovery between 30 and 105%. Spiked sample results outside the above ranges resulted in qualification of the associated data as estimated.

Due to low chemical yields, technetium-99 results for the following samples were rejected and flagged "R":

- Sample numbers B08L55 and B08L95 in SDG No. B08L55.
- Sample number B08LF0 in SDG No. B08LF0.

All other accuracy results were acceptable.

11.5 PRECISION

Analytical precision is expressed by the RPD between the recoveries of duplicate matrix spike analyses performed on a sample. When the laboratory has not performed duplicate spike analyses, precision may also be assessed using unspiked duplicate sample analyses. Replicates with an RPD less than 35 percent are acceptable. If duplicate activities are both <5xLLD, a control limit of 2xLLD is used. If replicate values are both below the LLD, no control limit is applicable. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects (J) or estimated non-detects (UJ).

All precision results were acceptable.

11.6 BLANK SAMPLES

Blank samples are analyzed to determine if positive results may be due to laboratory reagent, sample container, or detector contamination.

All blank results were acceptable.

11.7 ANALYTE QUANTITATION AND REPORTED DETECTION LIMITS

Analyte quantitation and detection limits were recalculated for all samples in each data delivery package to verify their accuracy. All analyte quantitation and reported detection limits were acceptable.

11.8 OVERALL ASSESSMENT AND SUMMARY

A review of instrument continuing calibration information and QC data indicates that instrument performance was adequate for these analyses. Due to low chemical yields technetium-99 results for samples in two SDGs were rejected and flagged "R". Rejected data are unusable for all purposes and should not be reported. Results for all samples in one SDG were qualified as estimates due to detector efficiency calibrations outside of QC limits. Estimated data are considered usable for limited purposes only. All other validated results are acceptable and usable for all purposes.

12.0 CARBON-14 DETERMINATION DATA VALIDATION

12.1 DATA PACKAGE COMPLETENESS

The following data packages (SDG Nos.) were submitted for validation and found to be complete:

B08L25	B08L40	B08LF0
B08L30	B08L55	B08LF4

12.2 HOLDING TIMES

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The maximum holding time for this analysis is six months.

All holding times were acceptable.

12.3 INSTRUMENT CALIBRATION AND PERFORMANCE

Instrument calibration is performed to establish that the low background liquid scintillation counting system used for carbon-14 determination is capable of producing acceptable and reliable analytical data. The initial calibration was performed according to manufacturer's recommendations and consists of an instrument efficiency determination for each applicable radionuclide. Continuing calibration checks are performed to verify that instrument performance is stable and reproducible on a day-to-day basis.

All calibration results, including efficiency checks and background counts, were acceptable.

12.4 ACCURACY

All spike recoveries should be within the specified QC range of 80 to 120 percent, while all radiometric yields should fall within the range of 30 to 105%. Spiked sample results outside the above ranges resulted in qualification of the associated data as estimated (J/UJ).

Due to high chemical yields, the carbon-14 result for sample number B08L65 in SDG No. B08L40 was rejected and flagged "R".

All other accuracy results were acceptable.

12.5 PRECISION

Analytical precision is expressed by the RPD between the recoveries of duplicate matrix spike analyses performed on a sample. When the laboratory has not performed duplicate spike analyses, precision may also be assessed using unspiked duplicate sample analyses. Replicates with a RPD less than 35 percent are acceptable. If duplicate activities are both <5xLLD, a control limit of 2xLLD is used. If replicate values are both below the LLD, no control limit is applicable. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects (J) or estimated non-detects (UJ).

All precision results were acceptable.

12.6 BLANK SAMPLES

Blank samples are analyzed to determine if positive results may be due to laboratory reagent, sample container, or detector contamination.

All blank results were acceptable.

12.7 ANALYTE QUANTITATION AND REPORTED DETECTION LIMITS

Analyte quantitation and detection limits were recalculated for all samples in each data delivery package to verify their accuracy.

All analyte quantitation and reported detection limits were acceptable.

12.8 OVERALL ASSESSMENT AND SUMMARY

A review of instrument performance and calibration indicates that the overall system performance is adequate. Due to high chemical yields the carbon-14 result in one sample was rejected. Rejected data are unusable for all purposes and should not be reported. All other validated results are acceptable and usable for all purposes.

13.0 TRITIUM DETERMINATION DATA VALIDATION

13.1 DATA PACKAGE COMPLETENESS

The following data packages (SDG Nos.) were submitted for validation and found to be complete:

B08L25	B08L40	B08LF0
B08L30	B08L55	B08LF4

13.2 HOLDING TIMES

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The maximum holding time for this analysis is six months.

All holding times were acceptable.

13.3 INSTRUMENT CALIBRATION AND PERFORMANCE

Instrument calibration is performed to establish that the low background liquid scintillation counting system used for tritium determination is capable of producing acceptable and reliable analytical data. The initial calibration was performed according to manufacturer's recommendations and consists of an instrument efficiency determination for each applicable radionuclide. Continuing calibration checks are performed to verify that instrument performance is stable and reproducible on a day-to-day basis.

All calibration results, including efficiency checks and background counts, were acceptable.

13.4 ACCURACY

All spike recoveries should be within the specified QC range of 80 to 120 percent, while all radiometric yields should fall within the range of 30 to 105%. Spiked sample results outside the above ranges resulted in qualification of the associated data as estimated (J/UJ).

Due to matrix spike recoveries outside of the QC range, all tritium results for all samples in SDG No. B08L55 were qualified as estimates and flagged "J".

All other accuracy results were acceptable.

13.5 PRECISION

Analytical precision is expressed by the RPD between the recoveries of duplicate matrix spike analyses performed on a sample. When the laboratory has not performed duplicate spike analyses, precision may also be assessed using unspiked duplicate sample analyses. Replicates with a RPD less than 35 percent are acceptable. If duplicate activities are both <5xLLD, a control limit of 2xLLD is used. If replicate values are both below the LLD, no control limit is applicable. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects (J) or estimated non-detects (UJ).

All precision results were acceptable.

13.6 BLANK SAMPLES

Blank samples are analyzed to determine if positive results may be due to laboratory reagent, sample container, or detector contamination.

All blank results were acceptable.

13.7 ANALYTE QUANTITATION AND REPORTED DETECTION LIMITS

Analyte quantitation and detection limits were recalculated for all samples in each data delivery package to verify their accuracy.

All analyte quantitation and reported detection limits and sample results were acceptable.

13.8 OVERALL ASSESSMENT AND SUMMARY

A review of instrument performance and calibration indicates that the overall system performance is adequate. All tritium results in one SDG were qualified as estimates due to poor matrix spike recoveries. Estimated data are considered usable for limited purposes only. All other validated results were acceptable and usable for all purposes.

Project: WESTINGHOUSE-HANFORD																				
Laboratory: Teledyne																				
Case	SDG: B08L05																			
Sample Number	B08L05		B08L15		B08L45		B08L50													
Location	199-K-11		199-K-18		199-K-27		199-K-30													
Remarks	NV		NV		NV		NV													
Sample Date	06/04/93		06/07/93		06/04/93		06/03/93													
Radiochemistry Analysis	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Gross Alpha	0.24	U	-0.44	U	7.4		1.0	U												
Gross Beta	6.0		4.2		49		7.2													
Uranium-235	0.065	U	0.0064	U	0.12		0.033	U												
Uranium-238	0.91		0.058	U	1.6		1.6													
Plutonium-239/240	0.0082	U	0.0082	U	0.0046	U	0.0083	U												
Americium-241	0.0042	U	0.0047	U	0.0039	U	0.0052	U												
Strontium-90	0.35	U	0.0	U	0.53	U	0.87	U												
Technetium-99	-0.46	U	-0.29	U	46		0.72	U												
Tritium	6700		14000		180000		1900000													
Carbon-14	500		19		290		23000													
Beryllium-7	14	U	17	U	-19	U	-15	U												
Potassium-40	-19	U	8.3	U	-5.8	U	10	U												
Manganese-54	0.42	U	0.78	U	-1.6	U	0.0	U												
Cobalt-58	-0.60	U	-3.0	U	-1.4	U	-3.0	U												
Iron-59	4.8	U	-3.6	U	-2.5	U	7.0	U												
Cobalt-60	-0.40	U	-1.3	U	-0.44	U	0.23	U												
Zinc-65	7.4	U	-1.2	U	-0.39	U	1.2	U												
Zirconium-95	4.2	U	0.64	U	1.5	U	1.9	U												
Ruthenium-103	-1.9	U	0.14	U	0.29	U	-2.7	U												
Ruthenium-106	3.3	U	10	U	0.0	U	-13	U												
Iodine-131	4.6	U	3.2	U	4.4	U	5.6	U												
Cesium-134	0.75	U	1.9	U	-0.67	U	-1.2	U												
Cesium-137	-0.92	U	2.2	U	0.60	U	0.91	U												
Barium-140	1.4	U	9.2	U	-5.90	U	-1.9	U												
Cerium-141	-8.0	U	-0.36	U	-15	U	-0.91	U												
Cerium-144	3.4	U	-8.8	U	-14	U	-11	U												
Europium-152	-12	U	-22	U	-12	U	-12	U												
Europium-154	1.7	U	-6.0	U	6.2	U	3.3	U												
Europium-155	-55	U	-65	U	-65	U	-39	U												
Radium-226	-15	U	-110	U	-6.8	U	44	U												
Thorium-228	-1.9	U	2.5	U	8.4	U	6.3	U												
Thorium-234	-110	U	-41	U	-73	U	-43	U												

NV + Not Validated

RADIOCHEMISTRY ANALYSIS, WATER MATRIX, (pCi/L+-2 standard deviations)

Project: WESTINGHOUSE-HANFORD																				
Laboratory: Teledyne																				
Case	SDG: B08L10																			
Sample Number	B08L10																			
Location	199-K-13																			
Remarks	NV																			
Sample Date	07/08/93																			
Radiochemistry Analysis	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Gross Alpha	1.4																			
Gross Beta	7.5																			
Uranium-235	0.0055	U																		
Uranium-238	0.78																			
Plutonium-239/240	0.0048	U																		
Americium-241	0.039	U																		
Strontium-90	-0.19	U																		
Technetium-99	0.98	U																		
Tritium	2800																			
Carbon-14	430																			
Beryllium-7	-27	U																		
Potassium-40	87.2	U																		
Manganese-54	1.6	U																		
Cobalt-58	-3.3	U																		
Iron-59	5.3	U																		
Cobalt-60	-3.0	U																		
Zinc-65	9.9	U																		
Zirconium-95	-4.4	U																		
Ruthenium-103	0.47	U																		
Ruthenium-106	-13	U																		
Iodine-131	3.7	U																		
Cesium-134	1.2	U																		
Cesium-137	0	U																		
Barium-140	-0.62	U																		
Cerium-141	-2.3	U																		
Cerium-144	-10	U																		
Europium-152	-16	U																		
Europium-154	-7.3	U																		
Europium-155	-41	U																		
Radium-226	16	U																		
Thorium-228	1.3	U																		
Thorium-232	-52	U																		

NV = Not Validated

9713520.1165
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RADIOCHEMISTRY ANALYSIS, WATER MATRIX, (pCi/L+-2 standard deviations)

Project: WESTINGHOUSE-HANFORD																				
Laboratory: Teledyne																				
Case	SDG: B08L20																			
Sample Number	B08L20																			
Location	199-K-19																			
Remarks	NV																			
Sample Date	06/15/93																			
Radiochemistry Analysis	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Gross Alpha	0.68	U																		
Gross Beta	29																			
Uranium-235	0.0055	U																		
Uranium-238	0.36																			
Plutonium-239/240	-0.023	U																		
Americium-241	0.0043	U																		
Strontium-90	11																			
Technetium-99	-0.44	U																		
Tritium	5700																			
Carbon-14	16																			
Beryllium-7	1.1	U																		
Potassium-40	-32	U																		
Manganese-54	0.32	U																		
Cobalt-58	0.0	U																		
Iron-59	3.0	U																		
Cobalt-60	3.0	U																		
Zinc-65	6.5	U																		
Zirconium-95	-3.5	U																		
Ruthenium-103	1.8	U																		
Ruthenium-106	-14	U																		
Iodine-131	1.2	U																		
Cesium-134	2.8	U																		
Cesium-137	1.7	U																		
Barium-140	3.3	U																		
Cerium-141	-2.4	U																		
Cerium-144	-25	U																		
Europium-152	-15	U																		
Europium-154	-2.6	U																		
Europium-155	-35	U																		
Radium-226	-67	U																		
Thorium-228	5.5	U																		
Thorium-234	-55	U																		

NV = Not Validated

9713520.1466 SD-EN-TI-200, Rev. 0

RADIOCHEMISTRY ANALYSIS, WATER MATRIX, (pCi/L+-2 standard deviations)

Project: WESTINGHOUSE-HANFORD																				
Laboratory: Teledyne																				
Case	SDG: B08L25																			
Sample Number	B08L25		B08L35		B08LD0															
Location	199-K-20		199-K-22		199-K-20															
Remarks					DUP															
Sample Date	06/09/93		06/08/93		06/09/93															
Radiochemistry Analysis	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Gross Alpha	2.5		1.1		1.9	U														
Gross Beta	27		25		29															
Uranium-235	0.010	U	0.0054	U	0.032	U														
Uranium-238	0.82		0.39		0.75															
Plutonium-239/240	0.042	U	0.0077	U	0.0085	U														
Americium-241	0.0043	U	0.012	U	0.0055	U														
Strontium-90	11		9.0		12															
Technetium-99	0.37	UJ	0.14	UJ	0.92	UJ														
Tritium	530		460		530															
Carbon-14	9.2	U	8.8	U	12															
Beryllium-7	20	U	20	U	-7.8	U														
Potassium-40	-93	U	-43	U	-7.0	U														
Manganese-54	0.0	U	0.16	U	-1.5	U														
Cobalt-58	0.0	U	0.0	U	-5.2	U														
Iron-59	0.0	U	0.38	U	1.3	U														
Cobalt-60	1.6	U	1.4	U	-1.2	U														
Zinc-65	-2.4	U	2.0	U	-4.8	U														
Zirconium-95	0.31	U	-1.8	U	2.5	U														
Ruthenium-103	-1.9	U	1.5	U	-2.2	U														
Ruthenium-106	-31	U	-23	U	14	U														
Iodine-131	2.6	U	1.6	U	-1.5	U														
Cesium-134	-1.6	U	-2.9	U	0.89	U														
Cesium-137	-1.6	U	3.8	U	2.4	U														
Barium-140	1.3	U	1.8	U	0.56	U														
Cerium-141	-1.1	U	-4.2	U	-7.7	U														
Cerium-144	-13	U	-0.87	U	-18	U														
Europium-152	-6.1	U	-0.31	U	-9.9	U														
Europium-154	-3.3	U	2.6	U	5.1	U														
Europium-155	-22	U	-35	U	-54	U														
Radium-226	41	U	12	U	-59	U														
Thorium-228	0.051	U	0.0057	U	-1.4	U														
Thorium-234	-56	U	-85	U	-19	U														

DUP = Duplicate

9713520.1162
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RADIOCHEMISTRY ANALYSIS, WATER MATRIX, (pCi/L+-2 standard deviations)

Project: WESTINGHOUSE-HANFORD																				
Laboratory: Teledyne																				
Case	SDG: B08L30																			
Sample Number	B08L30		B08L90		B08LB0		B08LC0													
Location	199-K-21		199-K-37		699-78-62		EB-1													
Remarks																				
Sample Date	06/25/93		06/26/93		06/26/93		06/26/93													
Radiochemistry Analysis	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Gross Alpha	2.2		2.7		2.1		0.21	U												
Gross Beta	82		22		6.3		0.7	U												
Uranium-235	0.0091	U	0.042	U	0.057	U	0.077	U												
Uranium-238	0.37		0.68	J	0.88		0.0086	U												
Plutonium-239/240	0.0055	U	0.0048	U	0.0048	U	-0.042	U												
Americium-241	0.025	U	0.024	U	0.0065	U	0.0055	U												
Strontium-90	32		7.8		0.37	U	0.30	U												
Technetium-99	-0.56	U	0.42	U	1.1	U	0.0	U												
Tritium	830		240		27	U	4.5	U												
Carbon-14	8.6	U	-5.5	U	-11	U	-8.3	U												
Beryllium-7	-9.1	U	0.00	U	-20	U	-4.9	U												
Potassium-40	7.4	U	-83	U	-17	U	-45	U												
Manganese-54	0.50	U	-0.28	U	-2.1	U	0.0	U												
Cobalt-58	0.58	U	0.32	U	-0.16	U	4.4	U												
Iron-59	-0.49	U	0.4	U	-0.82	U	-2.8	U												
Cobalt-60	-0.93	U	0.00	U	0.40	U	-2.7	U												
Zinc-65	-5.9	U	-4.3	U	2.1	U	-0.80	U												
Zirconium-95	-2.4	U	-1.7	U	-1.1	U	7.2	U												
Ruthenium-103	-4.8	U	3.8	U	0.0	U	0.16	U												
Ruthenium-106	17	U	-24	U	-4.5	U	-2.6	U												
Iodine-131	-12	U	-0.43	U	0.47	U	6.4	U												
Cesium-134	-1.8	U	0.6	U	-1.5	U	-1.2	U												
Cesium-137	1.1	U	-1.6	U	0.0	U	0.90	U												
Barium-140	-8.6	U	6.0	U	-3.5	U	11	U												
Cerium-141	-0.31	U	-7.3	U	-11	U	-2.6	U												
Cerium-144	-32	U	-26	U	-3.8	U	-10	U												
Europium-152	-9.7	U	-7.0	U	0.27	U	-24	U												
Europium-154	-12	U	-0.57	U	-0.57	U	3.0	U												
Europium-155	-47	U	-49	U	-59	U	-72	U												
Radium-226	-34	U	-24	U	-15	U	-30	U												
Thorium-228	4.4	U	10		15		-4.2	U												
Thorium-234	-60	U	-20	U	-16	U	-17	U												

EB = Equipment Blank

9713520.1168

RADIOCHEMISTRY ANALYSIS, WATER MATRIX, (pCi/L+-2 standard deviations)

Project: WESTINGHOUSE-HANFORD																				
Laboratory: Teledyne																				
Case	SDG: B08L40																			
Sample Number	B08L40		B08L65		B08LC5															
Location	199-K-23		199-K-32B		EB-2															
Remarks	NV																			
Sample Date	07/06/93		07/07/93		07/06/93															
Radiochemistry Analysis	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Gross Alpha	5.7		0.94	U	0.0	U														
Gross Beta	34.0		7.7		0.79	U														
Uranium-235	0.088		0.006	UJ	0.007	UJ														
Uranium-238	1.4		0.85	J	0.007	UJ														
Plutonium-239/240	0.025	U	0.045	UJ	0.024	UJ														
Americium-241	0.0058	U	0.025	UJ	0.012	UJ														
Strontium-90	0.11	U	-0.028	U	0.0	U														
Technetium-99	0.79	U	0.90	U	-1.3	U														
Tritium	420		-130	U	31	U														
Carbon-14	40		-15	R	-13	U														
Beryllium-7	-29	U	9.6	U	-11	U														
Potassium-40	-4.0	U	64.0	U	-12	U														
Manganese-54	1.3	U	0.0	U	2.1	U														
Cobalt-58	-1.9	U	-1.1	U	1.1	U														
Iron-59	7.4	U	-2.7	U	5.0	U														
Cobalt-60	33.8		0.23	U	-0.20	U														
Zinc-65	-4.4	U	-3.3	U	-4.2	U														
Zirconium-95	0.84	U	-2.1	U	2.8	U														
Ruthenium-103	-2.6	U	3.3	U	4.6	U														
Ruthenium-106	-24	U	-12	U	0.0	U														
Iodine-131	-13	U	4.7	U	-7.6	U														
Cesium-134	1.0	U	-1.6	U	1.3	U														
Cesium-137	-0.15	U	2.5	U	-3.0	U														
Barium-140	4.4	U	-1.2	U	0.0	U														
Cerium-141	-5.2	U	-8.0	U	-2.2	U														
Cerium-144	-8.9	U	-22	U	-21	U														
Europium-152	-22	U	-29	U	-11	U														
Europium-154	-11	U	2.7	U	-2.3	U														
Europium-155	-74	U	-27	UJ	-54	UJ														
Radium-226	-8.7	U	-9.4	U	-33	U														
Thorium-228	4.0	U	8.9	U	4.8	U														
Thorium-234	32	U	-93	U	-78	U														

NV = Not Validated, EB = Equipment Blank

9713520.1169
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RADIOCHEMISTRY ANALYSIS, WATER MATRIX, (pCi/L+-2 standard deviations)

Project: WESTINGHOUSE-HANFORD																				
Laboratory: Teledyne																				
Case	SDG: B08L55																			
Sample Number	B08L55		B08L60		B08L70		B08L95		B08LB5		B08LD5									
Location	199-K-31		199-K-32A		199-K-33		699-70-68		699-73-61		699-73-61									
Remarks											DUP									
Sample Date	06/16/93		06/14/93		06/10/93		06/18/93		06/17/93		06/17/93									
Radiochemistry Analysis	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Gross Alpha	1.3	U	0.77	U	3.7		3.7		5.7		1.1	U								
Gross Beta	7.7		12		12		56		8.8		6.4									
Uranium-235	-0.015	UJ	0.047	UJ	0.081	UJ	0.0083	UJ	0.088	UJ	0.043	UJ								
Uranium-238	0.62	J	0.57	J	1.7	J	0.44	J	0.52	J	1.0	J								
Plutonium-239/240	0.0053	UJ	0.0047	UJ	0.037	UJ	0.0044	UJ	0.062	UJ	0.0047	UJ								
Americium-241	0.0047	UJ	0.0045	UJ	0.0041	UJ	0.021	UJ	0.0052	UJ	0.026	UJ								
Strontium-90	1.3		1.2		2.3		0.80	U	0.68	U	1.8									
Technetium-99	3.3	R	8.6		0.63	U	82	R	-0.49	U	-1.3	U								
Tritium	1600	J	2500	J	35000	J	2300	J	190	J	150	UJ								
Carbon-14	59		450		16000		13	U	-2.4	U	2.6	U								
Beryllium-7	1.7	U	-12	U	0.0	U	19	U	2.3	U	16	U								
Potassium-40	-49	U	-59	U	-140	U	-26	U	-25	U	42	U								
Manganese-54	0.0	U	0.28	U	-2.6	U	1.6	U	-0.16	U	3.3	U								
Cobalt-58	0.0	U	-2.8	U	-3.9	U	-3.3	U	0.89	U	-0.29	U								
Iron-59	0.0	U	-6.6	U	-9.9	U	-5.5	U	-0.86	U	3.2	U								
Cobalt-60	-3.2	U	-1.0	U	0.46	U	2.0	U	0.0	U	0.19	U								
Zinc-65	-6.5	U	-5.3	U	6.6	U	-0.79	U	-2.1	U	4.9	U								
Zirconium-95	-2.2	U	-1.0	U	1.4	U	0.99	U	0.17	U	1.1	U								
Ruthenium-103	-3.7	U	-0.80	U	-3.6	U	-1.0	U	2.4	U	3.3	U								
Ruthenium-106	2.8	U	17	U	-14	U	-6.3	U	-38	U	0.0	U								
Iodine-131	3.8	U	-5.0	U	-9.8	U	2.6	U	2.8	U	8.6	U								
Cesium-134	1.1	U	1.6	U	-0.87	U	-1.2	U	-1.8	U	-0.14	U								
Cesium-137	-0.55	U	1.2	U	-0.91	U	0.60	U	4.1	U	4.1	U								
Barium-140	0.0	U	-4.5	U	0.0	U	0.0	U	-4.5	U	5.7	U								
Cerium-141	-7.1	U	-8.9	U	-6.5	U	-7.5	U	-2.1	U	-5.9	U								
Cerium-144	-16	U	-12	U	-12	U	6.7	U	-17	U	-35	U								
Europium-152	-4.9	U	-8.6	U	-5.6	U	-14	U	-14	U	-24	U								
Europium-154	-4.3	U	-6.3	U	-0.66	U	4.2	U	3.3	U	-1.6	U								
Europium-155	-53	U	-54	U	-43	U	-64	U	-35	U	-48	U								
Radium-226	31	U	44	U	4.9	U	-51	U	-15	U	-18	U								
Thorium-228	8.7	U	2.3	U	1.7	U	2.4	U	7.7	U	-0.16	U								
Thorium-234	-45	U	-44	U	-7.2	U	-60	U	-57	U	-20	U								

DUP = Duplicate

9713520.1170
WHC-SD-EN-TI-200, Rev. 0

RADIOCHEMISTRY ANALYSIS, WATER MATRIX, (pCi/L+-2 standard deviations)

Project: WESTINGHOUSE-HANFORD																				
Laboratory: Teledyne																				
Case	SDG: B08L75																			
Sample Number	B08L75																			
Location	199-K-34																			
Remarks	NV																			
Sample Date	06/01/93																			
Radiochemistry Analysis	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Gross Alpha	6.8																			
Gross Beta	100																			
Uranium-235	0.038	U																		
Uranium-238	2.2																			
Plutonium-239/240	-0.016	U																		
Americium-241	0.10																			
Strontium-90	37																			
Technetium-99	0.42	U																		
Tritium	6200																			
Carbon-14	8000																			
Beryllium-7	18																			
Potassium-40	-45	U																		
Manganese-54	0.0	U																		
Cobalt-58	-3.1	U																		
Iron-59	5.9	U																		
Cobalt-60	-0.89	U																		
Zinc-65	5.5	U																		
Zirconium-95	3.0	U																		
Ruthenium-103	0.29	U																		
Ruthenium-106	15	U																		
Iodine-131	0.96	U																		
Cesium-134	-3.5	U																		
Cesium-137	-2.4	U																		
Barium-140	-5.7	U																		
Cerium-141	-8.6	U																		
Cerium-144	3.6	U																		
Europium-152	-30	U																		
Europium-154	6.2	U																		
Europium-155	-62	U																		
Radium-226	-6.8	U																		
Thorium-228	7.2	U																		
Thorium-234	-85	U																		

NV = Not Validated

9713520.1171
WHC-SD-EN-TI-200, Rev. 0

RADIOCHEMISTRY ANALYSIS, WATER MATRIX, (pCi/L+-2 standard deviations)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: Teledyne																					
Case	SDG: B08L80																				
Sample Number	B08L80		B08L85																		
Location	199-K-35		199-K-36																		
Remarks	NV		NV																		
Sample Date	06/02/93		06/02/93																		
Radiochemistry Analysis	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Gross Alpha	-0.23	U	0.78	U																
Gross Beta	7.2		5.9																	
Uranium-235	0.0085	U	0.0062	U																
Uranium-238	0.79		0.92																	
Plutonium-239/240	0.0061	U	-0.0092	U																
Americium-241	0.0064	U	0.14																	
Strontium-90	0.96	U	1.5																	
Technetium-99	1.1	U	0.0	U																
Tritium	2000		640																	
Carbon-14	33		230																	
Beryllium-7	3.5	U	12	U																
Potassium-40	-19	U	-57	U																
Manganese-54	-0.66	U	0.14	U																
Cobalt-58	1.6	U	-2.3	U																
Iron-59	-4.7	U	-1.5	U																
Cobalt-60	0.46	U	-1.8	U																
Zinc-65	-2.5	U	0.70	U																
Zirconium-95	3.8	U	5.2	U																
Ruthenium-103	-1.1	U	1.0	U																
Ruthenium-106	-38	U	8.9	U																
Iodine-131	-8.3	U	0.77	U																
Cesium-134	1.6	U	-1.5	U																
Cesium-137	1.9	U	-0.40	U																
Barium-140	-1.1	U	-1.4	U																
Cerium-141	-1.6	U	-6.9	U																
Cerium-144	3.7	U	-5.2	U																
Europium-152	-16	U	-16	U																
Europium-154	7.3	U	-5.7	U																
Europium-155	-29	U	-45	U																
Radium-226	19	U	-36	U																
Thorium-228	9.4	U	-1.3	U																
Thorium-234	-140	U	-120	U																

NV = Not Validated

9713520.1172
WHC-SD-EN-TI-200, Rev. 0

RADIOCHEMISTRY ANALYSIS, WATER MATRIX, (pCi/L+-2 standard deviations)

Project: WESTINGHOUSE-HANFORD																				
Laboratory: TMA																				
Case	SDG: B08LF0																			
Sample Number	B08LF0																			
Location	199-K-20																			
Remarks	Split																			
Sample Date	06/09/93																			
Radiochemistry Analysis	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Gross Alpha	1.7	UJ																		
Gross Beta	22																			
Uranium-233/234	0.87																			
Uranium-235	0.037	U																		
Uranium-238	0.50																			
Plutonium-238	0.012	R																		
Plutonium-239/240	0	R																		
Americium-241	0.003	U																		
Strontium-90	11																			
Technetium-99	10	R																		
Tritium	650																			
Carbon-14	34	U																		
Potassium-40	N/D	U																		
Chromium-51	N/D	U																		
Iron-59	N/D	U																		
Cobalt-60	N/D	U																		
Zinc-65	N/D	U																		
Ruthenium-103	N/D	U																		
Ruthenium-106	N/D	U																		
Tin-113	N/D	U																		
Cesium-134	N/D	U																		
Cesium-137	N/D	U																		
Cerium-144	N/D	U																		
Europium-152	N/D	U																		
Europium-154	N/D	U																		
Radium-226	22																			
Thorium-228	N/D	U																		
Thorium-232	N/D	U																		

N/D = Not Detected

9713520.1173
WHC-SD-EN-TI-200, Rev. 0

RADIOCHEMISTRY ANALYSIS, WATER MATRIX, (pCi/L+-2 standard deviations)

Project: WESTINGHOUSE-HANFORD																				
Laboratory: TMA																				
Case	SDG: B08LF4																			
Sample Number	B08LF4																			
Location	699-73-61																			
Remarks	Split																			
Sample Date	06/17/93																			
Radiochemistry Analysis	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Gross Alpha	2.5	J																		
Gross Beta	4.3																			
Uranium-233/234	1.0																			
Uranium-235	0.064	U																		
Uranium-238	0.62																			
Plutonium-238	0.025	R																		
Plutonium-239/240	0	R																		
Americium-241	0	R																		
Strontium-90	0	U																		
Technetium-99	1.8	U																		
Tritium	140	U																		
Carbon-14	-55	U																		
Potassium-40	N/D	U																		
Chromium-51	N/D	U																		
Iron-59	N/D	U																		
Cobalt-60	N/D	U																		
Zinc-65	N/D	U																		
Ruthenium-103	N/D	U																		
Ruthenium-106	N/D	U																		
Tin-113	N/D	U																		
Cesium-134	N/D	U																		
Cesium-137	N/D	U																		
Cerium-144	N/D	U																		
Europium-152	N/D	U																		
Europium-154	N/D	U																		
Radium-226	N/D	U																		
Thorium-228	N/D	U																		
Thorium-232	N/D	U																		

N/D = Not Detected

9713520.1174

14.0 REFERENCES

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EPA, 1988a, *EPA Contract Laboratory Program Statement of Work for Organics Analyses, Multi-Media, Multi-Concentration*, U.S. Environmental Protection Agency, Washington, D.C.

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EPA, 1991, *EPA Contract Laboratory Program Statement of Work for Organics Analyses, Multi-Media, Multi-Concentration*, Environmental Protection Agency, Washington, D.C.

WHC, 1992a, *Data Validation Procedures for Chemical Analyses*, WHC-SD-EN-SPP-002, Rev. 1, Westinghouse Hanford Company, April 1992.

WHC, 1992b, *Data Validation Procedure for Radiological Analyses*, WHC-SD-EN-SPP-001, Westinghouse Hanford Company, 1992.

9713520.1176

DATA CHEM LABORATORIES

ENVIRONMENTAL WATER REPORT

Form EPRW-A
Page 1 of 3
Part 1 of 2

Date JUL 01 1993

Agency Identification Number S93-0383

Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

JUL 1993 RECEIVED SDLA

Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection June 01, 1993

Date Samples Received at Laboratory June 12, 1993

Analytical Results

Parameter Name / Analysis Date / Units / Method / Prep Method	Field Number / Lab Number	B08L79 EM 1635	B08L84 EM 1636	B08L89 EM 1637	B08L49 EM 1638	B08L09 EM 1639	B08L19 EM 1640	B08L39 EM 1641	B08LD4 EM 1642
Hydrazine 06/16/1993 ASTM D-1385	µg/L	ND* 2 U	ND* 2 U	ND* 2 U	ND* 2 U	ND* 2 U	ND* 2 U	ND* 2 U	ND* 2 U

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
1 Analyses completed on or before this date.

** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

Analyst: Mark A. Hixon

Reviewer: Katherine Kellersberger

Laboratory Supervisor: Norman K. Christensen

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
A Sorenson Company

9713520.1177

DATA CHEM LABORATORIES

ENVIRONMENTAL WATER REPORT

Date JUL 01 1993
Agency Identification Number S93-0383
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection June 01, 1993

Date Samples Received at Laboratory June 12, 1993

Analytical Results

Parameter Name / Analysis Date / Method / Prep Method	Units	Field Number / Lab Number	B08LF3 EM 1643	B08L29 EM 1644	B08L74 EM 1645					Limit of Detection
Hydrazine 06/16/1993 ASTM D-1385	µg/L		ND*	ND*	ND*					3.

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
¹ Analyses completed on or before this date.
** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

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WHC-SD-EN-SPP-002, Rev. 1

WET CHEMISTRY DATA VALIDATION CHECKLIST - FORM A-7

WESTINGHOUSE - HANFORD

PROJECT: ~~100-KR-4~~	REVIEWER: ~~Donald K. Wimbert~~ DKW	DATE: 9/11/93
LABORATORY: DataChem	CASE: BOBL79-DAT-226	SDG: B9L09
SAMPLES/MATRIX: 11/Water B9L79, B9L91, B9L89, B9L09, B9L19, B9L29, B9L13, B9LE3, B9L89, B9L74, B9L49		

1. DATA PACKAGE COMPLETENESS

Review the data package for completeness and check off the items below. If any data review elements are missing contact the laboratory for submittal of the omitted data.

Data Package Item	Present?:	Yes	No	N/A
Case Narrative		X		
Cover Page		X		
Traffic Reports/Chain-of-Custody		X		
Sample Analysis Data Report Forms		X		
Standards Data		X		
QC Summary				
Blanks Summary Report Forms	The laboratory supplied one form that summarized the QC data	X		
Spike Sample Recovery Report Forms		X		
Duplicate Sample Analysis Report Forms		X		
Laboratory Control Sample Report Forms		X		
Raw Data				
Ion Chromatograph Chromatograms				X
TOC and TOX Instrument Printouts				X
Laboratory Bench Sheets				
Additional Data				
Laboratory Sample Preparation Logs	- no separate preparation			X
Instrument Run Logs		X		
Internal Laboratory Chain-of-Custory		X		
Percent Solids Analysis Records				X
Reduction Formulae		X		
Chemist Notebook Pages		X		

2. HOLDING TIMES

Were all samples analyzed within holding times? - samples collected but then held until shipment Yes (No) N/A

Action: If any holding times were exceeded qualify all affected results as estimated (J for detects and UJ for nondetects).

8. LABORATORY CONTROL SAMPLE

Are percent recoveries within the acceptance limits? (Yes) No N/A

Are there calculation errors? Yes (No) N/A

ACTION: Qualify the affected results according to the following requirements:

AQUEOUS LCS - Qualify as estimated (J), all sample results > IDL, for which the LCS %R falls within the range 50-79% or > 120%. Qualify as estimated (UJ), all sample results < IDL, for which the LCS falls within the range of 50-79%. Qualify as unusable (R) all sample results, for which the LCS %R < 50%.

SOLID LCS - Qualify as estimated (J), all sample results > IDL for which the LCS %R is outside the established control limits. Qualify as estimated (UJ), all sample results < IDL for which the LCS %R are lower than the established control limits.

9. PERFORMANCE AUDIT ANALYSES

Are the performance audit sample results within the acceptance limits? Performance audit samples were not identified on the COCs Yes No (N/A)

ACTION: Note the results of the performance audit samples in the validation narrative.

10. DUPLICATE SAMPLE ANALYSIS

Are RPD values within the acceptance limits? - The lab analyzed an MS/MSD pair (Yes) No N/A

Action: Qualify the results for all associated samples of the same matrix as estimated (J) if the RPD falls outside the acceptance limits.

11. FIELD DUPLICATE SAMPLES

Do RPD values exceed the acceptance limits? Field duplicate samples were not identified on the COCs Yes No (N/A)

ACTION: Note the results of the field duplicate samples in the validation narrative.

12. FIELD SPLIT SAMPLES

Do RPD values exceed the acceptance limits? Field split samples were not identified on the COCs Yes No (N/A)

ACTION: Note the results of the field split samples in the validation narrative.

COMMENTS (attach additional sheets as necessary): The vials for samples B08L39, B08LD4, and B08LF3 were noted on the COCs to contain bubbles.

Samples were held for one to five days after collection before shipment to the laboratory. Since hydrazine is a volatile compound a holding time limit of seven days was used for the samples in this package. Samples B08L79, B08L84, B08L89, B08L49, B08L09, B08L19 and B08L39 were analyzed more than seven days after collection, therefore the hydrazine results in these samples were qualified as estimated, J.

The laboratory did not use the method blank to subtract from the calibration blank. This is not acceptable since both types of blanks are required to know precise information about the sample preparation and analysis procedure. Because all sample results were reported as nondetections, qualification were not required, however, the method blank efficiency must be corrected in future analyses.

Based on previous use of the ASTM-D1385 method for the analysis of hydrazine, it is known that the potential for false positive results exists with this method, therefore it is recommended that a different method be selected for the analysis of hydrazine.

The laboratory reported the sample results in µg/L. These results were corrected to mg/L and qualified for nondetection with the associated limit of detection.

9713520.1181

DATA CHEM LABORATORIES

ENVIRONMENTAL WATER REPORT

Form EPRW-A
Page 1 of 3
Part 1 of 2

Date JUL 01 1993
Agency Identification Number S93-0383
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

JUL 1993 RECEIVED SDLA

Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection June 01, 1993

Date Samples Received at Laboratory June 12, 1993

Analytical Results

Parameter Name / Analysis Date / Units / Method / Prep Method	Field Number / Lab Number	B08L79 EM 1635	B08L84 EM 1636	B08L89 EM 1637	B08L49 EM 1638	B08L09 EM 1639	B08L19 EM 1640	B08L39 EM 1641	B08LD4 EM 1642
Hydrazine 06/16/1993 ASTM D-1385	µg/L	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
1 Analyses completed on or before this date.

** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

Analyst: Mark A. Hixon

Reviewer: Katherine Kellersberger

Laboratory Supervisor: Norman K. Christensen

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
A Sorenson Company

9713520.1182

DATA CHEM LABORATORIES

ENVIRONMENTAL WATER REPORT

Date JUL 01 1993

Agency Identification Number S93-0383

Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection June 01, 1993

Date Samples Received at Laboratory June 12, 1993

Analytical Results

Parameter Name / Analysis Date / Units / Method / Prep Method	Field Number / Lab Number	B08LF3 EM 1643	B08L29 EM 1644	B08L74 EM 1645					* Limit of Detection
Hydrazine 06/16/1993 ASTM D-1385	µg/L	ND*	ND*	ND*					3.

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
¹ Analyses completed on or before this date.

** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

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A Sorenson Company

9713520.1183

DATA QUALIFICATION SUMMARY

UNIT: 100-KR-4, 4th ROUND GROUNDWATER SAMPLING

DOCUMENT CONTROL NUMBER: WHC-SD-EN-TI-200, REV.0

ANALYSES: Wet Chemistry

SDG NO.: B08L09

QUALIFICATION SUMMARY:

WET CHEMISTRY

SAMPLE NUMBERS: B08L09, B08L19, B08L29, B08L39, B08L49, B08L74, B08L79, B08L84, B08L89, B08LD4, B08LF3

HOLDING TIMES

The 14-day holding time requirement for hydrazine was exceeded for sample number B08L79 in SDG No. B08L09. The associated sample result was qualified as an estimate and flagged "J".

9713520.1184

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/8/93 Time 1030 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B0 8L39	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2536955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by [signature] Title [signature] Date 6-12-93

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

9713520.1185

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/9/93 Time 0930 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B08LF3	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2536955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by [signature] Title Tech. Date 6-12-93

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)

9713520.1186

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/9/93 Time 0930 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B08LD4	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2536955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Title Tech. Date 6-12-93

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)

9713520.1187

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/2/93 Time 0853 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO8L84	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2531955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Title Date 6-12-93

Analysis Required

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

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

A-6000-406(0

9713520.1188

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/4/93 Time 0857 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B08L09	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 25369556189 PCC 6/11/93
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Title Date 6-12-93

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)

9713520.1189

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/4/93 Time 0935 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B08L49	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2536955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Title Tech. Date 6-12-93

Analysis Required

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

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

A-6000-406(05/9

9713520.1190

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/1/93 Time 0922 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
BO 8L79	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2536955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Title Tech. Date 6-12-93

Analysis Required

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

**Use back of page for additional information

9713520.1191

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/2/93 Time 1024 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
308L89	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2536955619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by [signature] Title Tech Date 6-12-93

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)

9713520.1192

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/7/93 Time 1029 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
308L19	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2536/55619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by [signature] Title Tech. Date 6-12-93

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)

9713520.1193

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. Lee, G. Hamilton Date Sampled 6/9/93 Time 0930 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
08L29	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93-0-420-48
			BOL: # 2536955619
			TASK#: 93-119

ield Information** _____

pecial Handling and/or Storage _____

ossible Sample Hazards _____

PART II: LABORATORY SECTION

ceived by [signature] Title Tech Date 6-12-93

alysis Required _____

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

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

A-6000-406(05/93)

9713520.1194

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

ollector K. Lee, G. Hamilton Date Sampled 6/10/93 Time 0952 hours

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

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
08L74	1; 40ml; Gs;	WATER	HYDRAZINE (HCl)
			OPC: # W93- C-420-48
			BOL: # 25369555619
			TASK#: 93-119

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by [signature] Title Sup Tech Date 6-12-93

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)

9713520.1195

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 6/10/93

Ice Chest No. SML-212

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2536955619

Offsite Property No. W93-0-420-48

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

BO 8L74

1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: K.D. Lee	Received by: PCCole PCCole	Date/Time: 6/11/93 0730
Relinquished by: PCCole PCCole	Received by: [signature]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relinq. to Fig. # 1 by K.D. Lee 1200

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

9713520.1196

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-KR-4

Ice Chest No. SML-212

Bill of Lading/Airbill No. 2536955619

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Telephone (509)376-5045

Collection Date 6/9/93

Field Logbook No. EFL-1048

Offsite Property No. W93-0420-48

Sample Identification

BO 8L29
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: AJ Simpson AJ SIMPSON 6/9/93 1226	Received by: PC Cole PC Cole	Date/Time: 6/11/93 0730
Relinquished by: PC Cole PC Cole	Received by: [signature]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: Refrig'd

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

9713520.1197

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-KR-4

Ice Chest No. SML-212

Bill of Lading/Airbill No. 2536155619

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Telephone (509)376-5045

Collection Date 6/9/93

Field Logbook No. EFL-1048

Offsite Property No. W93-D-420-48

Sample Identification

B08LF3

1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: PCCole PCCole 6/9/93 1202	Received by: K. Jhapp / K. Trapp	Date/Time: 06/11/93 0855
Relinquished by: K. Jhapp / K. Jhapp 6/11/93 0855	Received by: [signature]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

Relog to Frig#1 on 6/9/93 1202 PCC

Note: Bubbles Present PCC 6/10/93

Moved to Frig #4 on 6/10/93 at 0857. KT

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

9713520.1198

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-KR-4

Ice Chest No. SML-212

Bill of Lading/Airbill No. 2536955619

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Telephone (509)376-5045

Collection Date 6/9/93

Field Logbook No. ~~EF~~ PCC 6/9/93 EFL-1048

Offsite Property No. W93-0-420-48

Sample Identification

BO8LD4
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: 6/9/93 PCCole PC.Cole 202	Received by: K.Trapp / K. Trapp	Date/Time: 6/11/93 0854
Relinquished by: 6/11/93 K.Trapp / K. Trapp 0854	Received by: [signature]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:
Reling to Frig #1 on 6/9/93 1202 PCC
Note: Bubbles Present PCC 6/10/93
Moved to Frig #4 on 6/10/93 at 0857. KT

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

9713520.1199

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 6/8/93

Ice Chest No. SML-212

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2536955619

Offsite Property No. W93-0-420-48

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

B08L39
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: K.D. Lee	Received by: PC Cole	Date/Time: 6/11/93 0730
Relinquished by: PC Cole	Received by: K. Trapp	Date/Time: 6/11/93 0856
Relinquished by: K. Trapp 6/11/93 0856	Received by:	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: relinq. to frig. # 1 by K.D. Lee PCC

Note: bubbles Present PCC 6/11/93

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

9713520.1200

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 6/7/93

Ice Chest No. SML-212

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2536955619

Offsite Property No. W93-042048

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

BO 8L19
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: [illegible] K.D. Lee	Received by: PC Cole PC Cole	Date/Time: 6/8/93 0700
Relinquished by: PC Cole PC Cole Reling to frig 4 6/11/93	Received by: K. Trapp / K. Trapp	Date/Time: 6/11/93 0848
Relinquished by: K. Trapp / K. Trapp 0848	Received by: [signature]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: reling. to frig. # 1 by K.D. Lee 12.20
Reling to Frig # 4 by PCC 0700

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

9713520.1201

estinghouse
nford Company

CHAIN OF CUSTODY

tody Form Initiator PH BUTCHER

pany Contact PH BUTCHER

ject Designation/Sampling Locations 100-KR-4

Chest No. SML-212

l of Lading/Airbill No. 2536955619

hod of Shipment EMERY

pped to DATA CHEM

sible Sample Hazards/Remarks N/A

Telephone (509)376-5045

Collection Date 6/4/93

Field Logbook No. EFL-1048

Offsite Property No. W93-0-420-48

Sample Identification

3L09
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

EM 16339

] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
inquished by: [illegible] K.D. Lee	Received by: PCCole PCCole	Date/Time: 6/7/93 0730
nquished by: [illegible] PCCole Reling Frig#4	Received by: 6/11/93 K. Trapp / K. Trapp 0852	Date/Time: 6/11/93 0852
nquished by: 6/11/93 [illegible] / K. Trapp 0852	Received by: [signature]	Date/Time: 6/12/93 10:00
nquished by:	Received by:	Date/Time:

Final Sample Disposition

osal Method:	Disposed by:	Date/Time:

ents:
rel'ng. to frig. #1 / by K.D. Lee 1131
reling to frig #4 by PCC 6/7/93 0730

)-407 (12/90) (EF) WEF061
of Custody

9713520.1202

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-KR-4

Ice Chest No. SML-212

Bill of Lading/Airbill No. 2536955619

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Telephone (509)376-5045

Collection Date 6/4/93

Field Logbook No. EFL-1048

Offsite Property No. W93-0-420-48

Sample Identification

80 8L49

1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: K.D. Lee K.D. Lee	Received by: PCCole PCCole	Date/Time: 6/7/93 0730
Relinquished by: PCCole PCCole Reling Frig #4	Received by: K. Trapp / K. Trapp	Date/Time: 6/11/93 0851
Relinquished by: 6/11/93 K. Trapp / K. Trapp 0851	Received by: [illegible]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

reling. to frig. # 1 by KD Lee 1131

reling. to Frig #4 by PCC 6/7/93 0730

0-407 (12/90) (EF) WEF061
of Custody

9713520.1203

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-KR-4

Ice Chest No. SML-212

Bill of Lading/Airbill No. 2536155619

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Telephone (509)376-5045

Collection Date 6/2/93

Field Logbook No. EFL-1048

Offsite Property No. W93-0-420-48

Sample Identification

B08L89

1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: K.D. Lee	Received by: PC Cole PC Cole	Date/Time: 6/3/93 0645
Relinquished by: PC Cole PC Cole Reling frig #4	Received by: K. J Trapp / K. Trapp	Date/Time: 6/11/93 0849
Relinquished by: 6/11/93 K. J Trapp / K. Trapp 0849	Received by:	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

reling. to frig. #1 by K.D. Lee 6/2/93 1214

reling. to frig #4 by PCC 6/3/93 0645

1-6000-407 (12/90) (EF) WEF061
Chain of Custody

9713520.1204

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 6/2/93

Ice Chest No. SML-212

Field Logbook No. EFL-1048

Bill of Lading/Airbill No. 2536955618 9 PCL 6/11/93

Offsite Property No. W93-0-420-48

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

BO8L84
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: K.P. Lee	Received by: PC Cole	Date/Time: 6/3/93 0645
Relinquished by: PC Cole Reling frig #4 6/11/93	Received by: K. Trapp	Date/Time: 6/11/93 0953
Relinquished by: K. Trapp 0853	Received by: [signature]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:
reling to frig. # 1 by K.P. Lee 1214
Reling to frig # 4 by PCL 0645

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

9713520.1205

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 100-KR-4

Collection Date 6/1/93

Ice Chest No. SML-212

Field Logbook No. FEF-1048

Bill of Lading/Airbill No. 2536955619

Offsite Property No. W93-0-420-48

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

BO8L79
1, 40ml, Gs, WATER, HYDRAZINE(HCl)

[redacted]

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: K.D. Lee K.D. Lee	Received by: PCCole PC Cole	Date/Time: 6/2/93 0710
Relinquished by: PCCole PCCole Reling Frig#4 6/11/93	Received by: K. Trapp / K. Trapp	Date/Time: 6/11/93 0850
Relinquished by: K. Trapp / K. Trapp 0850	Received by: [signature]	Date/Time: 6/12/93 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:
relinq. to frig #4 by K.D. Lee 1123
reling. to Frig. #4 by PCC 0710

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

THIS SET DIES:	TIME	DEADLINE	STARTED
Preparation:			06/16/93
Analysis:	14	6-15-93	06/16/93

DataChem Laboratories
CHAIN-OF-CUSTODY
Environmental Contract Program

SDG/Batch #:

DCL Set ID: 593 0383

Client: WHC | Account: 3534

Comments:

Date Sampled	Field ID Number	DCL Sample Number(s)	QC	Matrix	Cooler	Hydrazine
6-1-93	B08L79	EM 1635		Water	C93/829	1
6-2-93	B08L84	1636				1
↓	B08L89	1637				1
6-4-93	B08L49	1638				1
↓	B08L09	1639				1
6-7-93	B08L19	1640				1
6-8-93	B08L39	1641				1
6-9-93	B08LD4	1642				1
↓	B08LF3	1643				1
↓	B08L29	↓ 1644		↓		1
ORIGINAL FIELD SAMPLE CONTAINER(S) FOR ANALYSIS OF: →						X

SPLIT

SUBSEQUENCE

ANALYSIS

Received: Date/Time/Signature 6-12-93 / 10:00 /

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
	6-14-93 09:00	Sample Storage	Storage/R24-1
Storage R-24-1 MH	6-16-93 0900	Mark Hix	Sample prep/none

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

SAMPLE ~~PREP/ANALYSIS~~ FOR: Hydrazine

~~Prepared/Analyzed~~ by: M. Hixon

LAB NOTEBOOK NO. 2300

Date/Time: 06/16/93 1030

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
Mark Hix	06/16/93 1030	Mark Hix	Analysis/none

IS SET CONTINUED ON CONTINUATION PAGE? ___ YES ___ NO

Revised 06/92

9713520.1206

DataChem Laboratories
CHAIN-OF-CUSTODY
Environmental Contract Program

THIS SET DIES:	TIME	DEADLINE	STARTED
Preparation:			06/16/93
Analysis:	14	6-15-93	06/16/93

SDG/Batch #:

DCL Set ID: 5930383

Client: WHC | Account: 3534

Comments:

Date Sampled	Field ID Number	DCL Sample Number(s)	QC	Matrix	Cooler	Hydrazine
6-10-93	B08L74	EM 1645		Water	C931829	1

SPLIT

SUBSEQUENCE

ANALYSIS

ORIGINAL FIELD SAMPLE CONTAINER(S) FOR ANALYSIS OF: →

Received: Date/Time/Signature 6-12-93 10:00

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
	6-12-93 09:00	Sample Storage	Storage R24-1
Storage R-24-1 MH	6-16-93 0900	Mark Hix	Sample Prep / none

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

SAMPLE PREP/ANALYSIS FOR: Hydrazine

Prepared/Analyzed by: M. Hixon

LAB NOTEBOOK NO. 2300

Date/Time: 06/16/93 1030

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
Mark Hix	06/16/93 1030	Mark Hix	Analysis / none

IS SET CONTINUED ON CONTINUATION PAGE? ___ YES ___ NO

Revised 06/92

9713520.1207