

START

BO8FGO-DAT-244

0045055



June 7, 1993
Refer to: 93P410

Please reply to:
Salt Lake City Office

Ms. Briana Colley
Westinghouse Hanford Company
HASM
2355 Stevens Drive
MSIN H4-23
345 Hills Street / 300 Area
Richland, WA 99352



Dear Ms. Colley:

The following is to clear up a miss-reading of the Chain-Of-Custody and/or misprint in the data reported. Please note the reported sample number referenced to the correct number.

CASE #	DCL Sample #	Reported Sample #	Correct Sample #
S93-0257	EM 1096	B08GG4	B08G64

I apologize for any inconvenience this may have caused. Please contact me if you have questions or if I can be of service in any way.

Sincerely,

Kevin W. Griffiths
Project Manager

96134.1 1160

B08FGO-DAT-244 000001



ENVIRONMENTAL WATER REPORT

Form EPRW-A Page 1 of 4 Part 1 of 3

Date MAY 21 1993

Agency Identification Number S93-0257

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

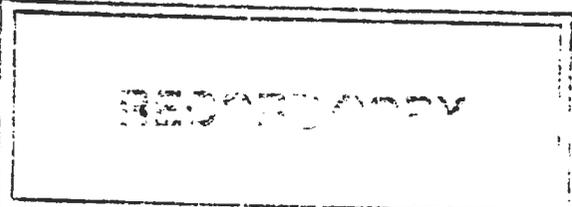
Sampling Site _____ Date of Collection April 16, 1993

Date Samples Received at Laboratory April 28, 1993

Analytical Results

Table with columns: Parameter Name, Analysis Date, Units, Method, Prep Method, Field Number, Lab Number, and results for Hydrazine across various sample IDs.

† 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

96134 1.1161

000002



ENVIRONMENTAL WATER REPORT

Form EPRW-A
Page 2 of 4
Part 2 of 3

MAY 21 1993

Date _____
Agency Identification Number S93-0257
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 April 16, 1993

Date Samples Received at Laboratory April 28, 1993

Analytical Results

Parameter Name	Analysis Date	Units	Method	Prep Method	Field Number	Lab Number	B08FH5 EM 1088	B08FH5MS EM 1088MS	B08FH5MD EM 1088MD	B08FJ5 EM 1089	B08FK0 EM 1090	B08FK5 EM 1091	B08FP0 EM 1092	B08FL0 EM 1093
Hydrazine	04/30/1993	µg/L	ASTMD1385				ND*	77.	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.)

9613471.1162

000003



ENVIRONMENTAL WATER REPORT

Form EPRW-A
Page 3 of 4
Part 3 of 3

Date MAY 21 1993
Agency Identification Number S93-0257
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 April 16, 1993
Date Samples Received at Laboratory April 28, 1993

Analytical Results

Table with columns: Parameter Name, Analysis Date, Units, Method, Prep Method, Field Number, Lab Number, and Limit of Detection. Row 1: Hydrazine, 04/30/1993, µg/L, ASTMD1385, ND* across all field/lab numbers, Limit of Detection 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.)

9613471.1163

000004



ENVIRONMENTAL WATER REPORT

Form EPRW-C

Page 4 of 4

Date MAY 21 1993

Agency Identification Number S93-0257

General Set Comments

CASE NARRATIVE

Nothing unusual was noted during the preparation or analysis of these samples. Q.C. sample target value is 90 µg/L and the matrix spike added is 80 µg/L.

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-BC-5

Ice Chest No. SMC-152

Bill of Lading/Airbill No. 2536954321

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 4/16/93

Field Logbook No. EFL-1037

Offsite Property No. W93-0-420-23

Sample Identification

B08FG5

1, 40ml, Gs, WATER; HYDRAZINE



Field Transfer of Custody		Chain of Possession			(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time	
K. Trump / K. Trapp	4/16/93	1355	PC Cole PC Cole	4/27/93	0700	
PC Cole PC Cole	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200	

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:
Comments: Sample set in refrig 1 on 4/16/93 at 1355		

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator **KD LEE/GG HAMILTON**
 Company Contact **PH BUTCHER**
 Project Designation/Sampling Locations **100-BC-5**
 Ice Chest No. **SMC-152**
 Bill of Lading/Airbill No. **2536954321**
 Method of Shipment **EMERY**
 Shipped to **DATA CHEM**
 Possible Sample Hazards/Remarks

Telephone **(509) 376-5045**
 Collection Date **4/16/93**
 Field Logbook No. **EFL-1037**
 Offsite Property No. **W93-0-420-23**

Sample Identification

BO8FG5

1, 40ml, Gs, WATER; HYDRAZINE



[] Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
K. Trapp / K. Trapp	4/16/93	1355	PC Cole PC Cole	4/27/93	0700
PC Cole PC Cole	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method: _____ Disposed by: _____ Date/Time: _____

Comments: *Sample set in refrig 1 on 4/16/93 at 1355*

9613471.1166

000007

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator **KD LEE/GG HAMILTON**

Company Contact **PH BUTCHER**

Project Designation/Sampling Locations **100-BC-5**

Ice Chest No. **SML152**

Bill of Lading/Airbill No. **2536954321**

Method of Shipment **EMERY**

Shipped to **DATA CHEM**

Possible Sample Hazards/Remarks

Telephone **(509) 376-5045**

Collection Date **4/17/93**

Field Logbook No. **EFL 1037**

Offsite Property No. **W93-0-420-23**

Sample Identification

BO 8FW4

1, 40ml, Gs, WATER; HYDRAZINE



Field Transfer of Custody

Chain of Possession

(Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
<i>GG Hamilton</i> GG HAMILTON	4/17/93	1046	<i>RC Cole</i> RC COLE	4/27/93	0700
<i>RC Cole</i> RC COLE	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:
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Comments:

9613471.1167

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Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-BC-5

Collection Date 4/17/93

Ice Chest No. SML-152

Field Logbook No. EFL 1037

Bill of Lading/Airbill No. 25362954321

Offsite Property No. W93-0-420-23

Method of Shipment EMERY

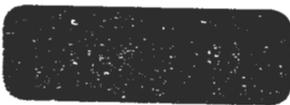
Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Sample Identification

BO 8F JO

1, 40ml, Gs, WATER; HYDRAZINE



Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>GG Hamilton</i>	4/17/93	1646	<i>PC Cole</i>	4/27/93	0700
<i>PC Cole</i>	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method: _____ Disposed by: _____ Date/Time: _____

Comments:

① an available exposure to engine exhaust smells @ WELL HEAD due to erratic wind change
 ② FRID #4

9613471.1168

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Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON
Company Contact PH BUTCHER
Project Designation/Sampling Locations 100-BC-5
Ice Chest No. SML-152
Bill of Lading/Airbill No. 25316954321
Method of Shipment EMERY
Shipped to DATA CHEM
Possible Sample Hazards/Remarks

Telephone (509) 376-5045
Collection Date 4/17/93
Field Logbook No. EFL 1037
Offsite Property No. W93-0-420-23

Sample Identification

B09FFD
1, 40ml, Gs, WATER; HYDRAZINE



[] Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
GG HAMILTON	4/17/93	1646	PC Lole PC Lole	4/27/93	0700
PC Lole PC Lole	4/27/93	0700		4-28-93	1200

Final Sample Disposition

Disposal Method: Disposed by: Date/Time:

Comments:

FRIC #5

9613471.1169

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Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-BC-5

Ice Chest No. SML-152

Bill of Lading/Airbill No. 2536954321

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 4/17/93

Field Logbook No. EFL 1037

Offsite Property No. W93-0-420-23

Sample Identification

BO8FH0

1, 40ml, Gs, WATER; HYDRAZINE



[] Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>GG Hamilton</i>	4/17/93	1646	<i>Patricia P. Cole</i>	4/27/93	0700
<i>Patricia P. Cole</i>	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method:

Disposed by:

Date/Time:

Comments:

FRIG 45

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-BC-5

Collection Date 4-17-93

Ice Chest No. SML-152

Field Logbook No. EFL 1037

Bill of Lading/Airbill No. 2530954321

Offsite Property No. W93-0-420-23

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Sample Identification

B08FH5

1, 40ml, Gs, WATER; HYDRAZINE



[] Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
GG Hamilton	4-17-93	1646	PCole PCole	4/27/93	0700
PCole PCole	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method: _____ Disposed by: _____ Date/Time: _____

Comments:

FRIG #5

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator **KD LEE/GG HAMILTON**
 Company Contact **PH BUTCHER**
 Project Designation/Sampling Locations **100-BC-5**
 Ice Chest No. **SIML-152**
 Bill of Lading/Airbill No. **2536AS4321**
 Method of Shipment **EMERY**
 Shipped to **DATA CHEM**
 Possible Sample Hazards/Remarks

Telephone **(509) 376-5045**
 Collection Date **4/19/93**
 Field Logbook No. **EFL1037**
 Offsite Property No. **W93-0-420-23**

Sample Identification

B08FJ5
 1, 40ml, Gs, WATER; HYDRAZINE



[] Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	4-19-93	1525	<i>[Signature]</i>	4/27/93	0700
<i>[Signature]</i>	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method: _____ Disposed by: _____ Date/Time: _____
 Comments: *note: Bubbles present pc 4/20/93*

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON
Company Contact PH BUTCHER
Project Designation/Sampling Locations 100-BC-5
Ice Chest No. SML-152
Bill of Lading/Airbill No. 2536954321
Method of Shipment EMERY
Shipped to DATA CHEM
Possible Sample Hazards/Remarks

Telephone (509) 376-5045
Collection Date 4/14/93
Field Logbook No. EFL-1037
Offsite Property No. W93-0-420-23

Sample Identification

BO 8FKO
1, 40ml, Gs, WATER; HYDRAZINE



Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
K. J. Mann / K. Trapp	4/19/93	1523	P. L. Cole P. L. Cole	4/27/93	0700
P. L. Cole P. L. Cole	4/27/93	0700	[Signature]	4-28-93	1200

Final Sample Disposition

Disposal Method: Disposed by: Date/Time:
Comments: Sample set in rotig 1 on 4/19/93 at 1525
Note: Bubbles present re 4/20/93

9613471.1173

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Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON
Company Contact PH BUTCHER
Project Designation/Sampling Locations 100-BC-5
Ice Chest No. SML-152
Bill of Lading/Airbill No. 2536954321
Method of Shipment EMERY
Shipped to DATA CHEM
Possible Sample Hazards/Remarks

Telephone (509) 376-5045
Collection Date 4/19/93
Field Logbook No. ~~KT~~ ^{KT 4/19/93} EFL-1037
Offsite Property No. W93-0-420-23

Sample Identification

BO 8FK5
1, 40ml, Gs, WATER; HYDRAZINE



[] Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
K. Vapp / K. Vapp	4/19/93	1523	R. Cole R. Cole	4/27/93	0700
R. Cole R. Cole	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method: Disposed by: Date/Time:

Comments: Sample set in retriq #1 on 4/23/93 at 1523

Note: Bubbles Present

Westinghouse Hanford Company	CHAIN OF CUSTODY
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Custody Form Initiator KD LEE/GG HAMILTON Company Contact PH BUTCHER Project Designation/Sampling Locations 100-BC-5 Ice Chest No. SML-152 Bill of Lading/Airbill No. 2536954321 Method of Shipment EMERY Shipped to DATA CHEM Possible Sample Hazards/Remarks	Telephone (509) 376-5045 Collection Date 4/20/93 Field Logbook No. EFL-1037 Offsite Property No. W93-0-420-23
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Sample Identification

BOBFC
1, 40ml, Gs, WATER; HYDRAZINE



[] Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>C. Caldwell</i>	<i>4-20-93</i>	<i>1315</i>	<i>PC Coie</i>	<i>4/27/93</i>	<i>0700</i>
<i>PC Coie</i>	<i>4/27/93</i>	<i>0700</i>	<i>[Signature]</i>	<i>4-28-93</i>	<i>1200</i>

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:
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Comments: *Rebid # 4* *NOTE: Bubbles in sample BW 4/21/93*

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON
 Company Contact PH BUTCHER
 Project Designation/Sampling Locations 100-BC-5
 Ice Chest No. SML-152
 Bill of Lading/Airbill No. 2536954321
 Method of Shipment EMERY
 Shipped to DATA CHEM
 Possible Sample Hazards/Remarks

Telephone (509) 376-5045
 Collection Date 4/20/93
 Field Logbook No. EFL-1037
 Offsite Property No. W93-0-420-23

Sample Identification

BO 8FLO
 1, 40ml, Gs, WATER; HYDRAZINE



[] Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
C. Celibert C. Celibert	4/20/93	1215	PCLOLE PCLOLE	4/27/93	0700
PCLOLE PCLOLE	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:
Comments: Refridg # 4	Note: Bubbles present	PC 4/21/93

9613471.1176

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Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-BC-5

Ice Chest No. SML-152

Bill of Lading/Airbill No. 2536954321

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 4/21/93

Field Logbook No. EFL 1037

Offsite Property No. W93-0-420-23

Sample Identification

B08FRO

1, 40ml, Gs, WATER; HYDRAZINE



Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>GG Hamilton</i>	4/21/93	1350	<i>RL Cole</i>	4/27/93	0700
<i>RL Cole</i>	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:
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Comments: Bubble present KT 4/22/93

FRIG #1

9613471.1177

000018

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-BC-5

Ice Chest No. SML-152

Bill of Lading/Airbill No. 2536954321

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 4/21/93

Field Logbook No. FEL-1036

Offsite Property No. W93-042023

Sample Identification

BOSE P5

1, 40ml, Gs, WATER; HYDRAZINE (HCL)



[] Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
Kathy Wheeler K. Wheeler	4/21/93	1345	Debbie P. Cole	4/27/93	0700
Debbie P. Cole	4/27/93	0700	[Signature]	4-28-93	1200

Final Sample Disposition

Disposal Method: _____ Disposed by: _____ Date/Time: _____

Comments: relinquish to fr. #4 by Kathy Wheeler 1345

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator **KD LEE/GG HAMILTON**
 Company Contact **PH BUTCHER**
 Project Designation/Sampling Locations **100-BC-5**
 Ice Chest No. **SML-152**
 Bill of Lading/Airbill No. **2536954321**
 Method of Shipment **EMERY**
 Shipped to **DATA CHEM**
 Possible Sample Hazards/Remarks

Telephone **(509) 376-5045**
 Collection Date **4/21/93**
 Field Logbook No. **EFL-1036**
 Offsite Property No. **W93-0-420-23**

Sample Identification

BO 8664
 1, 40ml, Gs, WATER; HYDRAZINE (HCL)



Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>Phy Lee K.D.W.</i>	<i>4/21/93</i>	<i>1345</i>	<i>Riole PCLde</i>	<i>4/27/93</i>	<i>0700</i>
<i>Riole PCLde</i>	<i>4/27/93</i>	<i>0700</i>	<i>[Signature]</i>	<i>4-28-93</i>	<i>1200</i>

Final Sample Disposition

Disposal Method: _____ Disposed by: _____ Date/Time: _____

Comments:
relays to frig # 4 by Kathy D. Lee 4/21/93 1345

9613471.1179

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Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-BC-5

Ice Chest No. SMC-152

Bill of Lading/Airbill No. 2536954321

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 4/21/93

Field Logbook No. EFL-1036

Offsite Property No. W93-0-420-23

Sample Identification

BO 8-25

1, 40ml, Gs, WATER; HYDRAZINE (HCL)



Field Transfer of Custody

Chain of Possession

(Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
<i>Kevin P. Lee</i> K P Lee	4/21/93	1345	<i>Rickie PCLde</i>	4/27/93	0700
<i>Rickie</i> PCLde	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method:

Disposed by:

Date/Time:

Comments:

relinquish to Fr. [Signature] Kevin P Lee 4/21/93 1345

9613471.1180

000021

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON
Company Contact PH BUTCHER
Project Designation/Sampling Locations 100-BC-5
Ice Chest No. SML-152
Bill of Lading/Airbill No. 2536954321
Method of Shipment EMERY
Shipped to DATA CHEM
Possible Sample Hazards/Remarks

Telephone (509) 376-5045
Collection Date 4-21-93
Field Logbook No. EFL1037
Offsite Property No. W93-0420-23

Sample Identification

BO8FQ5
1, 40ml, Gs, WATER; HYDRAZINE



Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>KG Hamilton</i>	4/21/93	1350	<i>Phili P. Cole</i>	4/27/93	0700
<i>Phili P. Cole</i>	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method: Disposed by: Date/Time:

Comments: Bubble in sample. KR 4/22/93
FRIG #1

DATA QUALIFICATION SUMMARY

UNIT: 100-BC-5

DOCUMENT CONTROL NUMBER: WHC-SD-EN-TI-186

ANALYSES: Wet Chemistry

RFW NO.: B08FG0-DAT-244

SDG NO.: B08FF0

QUALIFICATION SUMMARY:WET CHEMISTRY

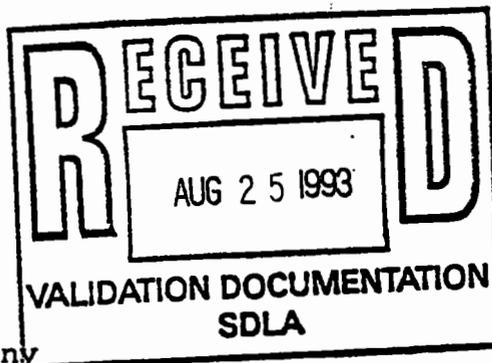
SAMPLE NUMBERS: B08FF0, B08FG0, B08FG5, B08FH0, B08FH5, B08FJ0,
B08FJ5, B08FK0, B08FK5, B08FL0, B09FL5, B08FP0,
B08FP5, B08FQ5, B08FR0, B08FW4, B08G64

No Data Qualified.

9613471.1199

Kearney/Centaur Division
A.T. Kearney, Inc.
2952 George Washington Way
Richland, Washington 99352
509 375 5007
Facsimile 509 375 5151

Management
Consultants



ATKEARNEY

August 25, 1993

Ms. Jeanette Duncan
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Reference: Purchase Order No. 272980; Task Order KD-93-15,
Validation of 100 Area Data, Validation Report
Submittal.

Internal: A.T. Kearney Project Number G954-15

Dear Ms. Duncan:

Enclosed are two copies of the following data validation report:

- WHC-SD-EN-TI-186 100-BC-5, Fourth Round Groundwater Samples

Please feel free to contact me at (415) 595-4300 if you have any questions.

Sincerely,

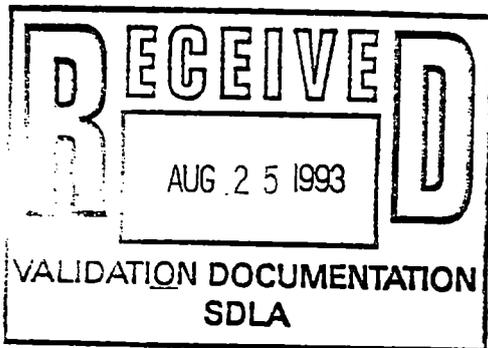
John W. Goode, Ph.D
Task Order Manager

- cc. R. Henckel, WHC
- K. Pool, WHC
- M. Schwab, WHC
- J. Koehnen
- L. Sherman
- J. Darabaris
- H. Duncan



Validation Reports 100-BC-5

DATA VALIDATION REPORT
FOR THE
100-BC-5 OPERABLE UNIT
FOURTH ROUND GROUNDWATER SAMPLING



Submitted To:

Westinghouse Hanford Company
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Submitted By:

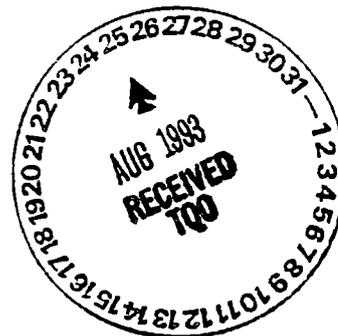
A.T. Kearney, Inc.
2952 George Washington Way
Richland, WA 99352

In Response To:

Purchase Order 272980
Task Order K-93-15

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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-BC-5 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-BC-5 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	Dibutylchloroendate
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-BC-5 Operable Unit Fourth Round Groundwater Sampling event:

B08FD7	B08FH8	B08FL9	B08FQ0	B08FT0
B08FD8	B08FH9	B08FM0	B08FQ1	B08FT1
B08FD9	B08FJ0	B08FM1	B08FQ2	B08FT2
B08FF0	B08FJ1	B08FM2	B08FQ3	B08FT3
B08FF1	B08FJ2	B08FM3	B08FQ4	B08FT4
B08FF2	B08FJ3	B08FM4	B08FQ5	B08FT5
B08FF3	B08FJ4	B08FM5	B08FQ6	B08FT6
B08FF4	B08FJ5	B08FM6	B08FQ7	B08FT7
B08FF5	B08FJ6	B08FM7	B08FQ8	B08FT8
B08FF6	B08FJ7	B08FM8	B08FQ9	B08FT9
B08FF7	B08FJ8	B08FM9	B08FR0	B08FV0
B08FF8	B08FJ9	B08FN0	B08FR1	B08FV1
B08FF9	B08FK0	B08FN1	B08FR2	B08FV2
B08FG0	B08FK1	B08FN2	B08FR3	B08FV3
B08FG1	B08FK2	B08FN3	B08FR4	B08FV4
B08FG2	B08FK3	B08FN4	B08FR5	B08FV5
B08FG3	B08FK4	B08FN5	B08FR6	B08FV6
B08FG4	B08FK5	B08FN6	B08FR7	B08FV7
B08FG5	B08FK6	B08FN7	B08FR8	B08FV8
B08FG6	B08FK7	B08FN8	B08FR9	B08FV9
B08FG7	B08FK8	B08FN9	B08FS0	B08FW0
B08FG8	B08FK9	B08FP0	B08FS1	B08FW1
B08FG9	B08FL0	B08FP1	B08FS2	B08FW2
B08FH0	B08FL1	B08FP2	B08FS3	B08FW3
B08FH1	B08FL2	B08FP3	B08FS4	B08FW4
B08FH2	B08FL3	B08FP4	B08FS5	B08G60
B08FH3	B08FL4	B08FP5	B08FS6	B08G61
B08FH4	B08FL5	B08FP6	B08FS7	B08G62
B08FH5	B08FL6	B08FP7	B08FS8	B08G63
B08FH6	B08FL7	B08FP8	B08FS9	B08G64
B08FH7	B08FL8	B08FP9		

Westinghouse-Hanford has requested that a minimum of 20% of the total number of Sample Delivery Groups be validated for the 100-BC-5 Operable Unit Fourth Round Groundwater Sampling Investigation. Therefore, the data from the chemical analysis of 73 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
B08FD7	W	2	VOC, Inorganic
B08FD7	W	1	BNA, Pest/PCBs, Wet Chemistry
B08FF0	W	17	Hydrazine
B08FF6	W	12	VOC
B08FF6	W	6	BNA, Pest/PCBs, Inorganics, Wet Chemistry
B08FF7	W	6	Inorganics
B08FF9	W	16	TOC/TOX
B08FP1	W	9	VOC
B08FP1	W	4	BNA, Pest/PCBs, Inorganics, Wet Chemistry
B08FP2	W	4	Inorganics
B08FT6	W	4	VOC
B08FT6	W	2	BNA, Pest/PCBs, Inorganics, Wet Chemistry
B08FT7	W	2	Inorganics

Thirty-one samples were analyzed and submitted for validation 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
B08FD7	W	1	Radiochemistry
B08FF1	W	13	Radiochemistry
B08FF6	W	16	Radiochemistry
B08FV6	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:

<u>Sample No.</u>	<u>Split Sample No.</u>	<u>Well Location</u>
B08FH6	B08FD7	199-B4-1
B08FH7	B08FD8	199-B4-1
B08FH8	B08FD9	199-B4-1
B08FJO	B08FF0	199-B4-1

Set 2:

<u>Sample No.</u>	<u>Split Sample No.</u>	<u>Well Location</u>
B08FS6	B08FV6	699-66-64
B08FS7	B08FV7	699-66-64
B08FS8	B08FV8	699-66-64
B08FT0	B08FV9	699-66-64

The sample and split samples for well location 199-B4-1 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:

<u>Sample No.</u>	<u>Duplicate Sample No.</u>	<u>Well Location</u>
B08FH6	B08FW0	199-B4-1
B08FH7	B08FW1	199-B4-1
B08FH8	B08FW2	199-B4-1
B08FH9	B08FW3	199-B4-1
B08FJ0	B08FW4	199-B4-1

Set 2:

<u>Sample No.</u>	<u>Duplicate Sample No.</u>	<u>Well Location</u>
B08FP1	B08G60	199-B5-1
B08FP2	B08G61	199-B5-1
B08FP3	B08G62	199-B5-1
B08FP4	B08G63	199-B5-1
B08FP5	B08G64	199-B5-1

The duplicate sample results for both well locations 199-B4-1 and 199-B5-1 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 4/30/93 and designated EB 1. The second set was also collected on 4/30/93 and designated EB 2.

Set 1 (EB 1):

Set 2 (EB 2):

<u>Sample Number</u>
B08FT6
B08FT7
B08FT8
B08FT9
B08FV0

<u>Sample Number</u>
B08FV1
B08FV2
B08FV3
B08FV4
B08FV5

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.
- E - Indicates the analyte was analyzed for and detected at a concentration outside of the calibration range of the

instrument. All reported concentrations flagged with an "E" are estimates which may contain significant error.

- 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-BC-5 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 lab blank contamination was noted in the volatile and semivolatile results for a few samples. The contaminants were compounds commonly found in analytical laboratories and the corresponding sample results were flagged accordingly.
- The surrogate recovery results for three BNA and two pest/PCB samples did not meet QC limits. All associated sample results were flagged "J".
- All alpha-BHC results for one pest/PCB data package were rejected due to retention time shifts in the calibration standards and unidentified peaks within twice the expected retention time window.
- 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 13 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.
- All arsenic and selenium results in SDG. No. B08FT6 were rejected due to a lack of either raw data or data that has been mislabelled.
- The holding time from sample collection to preparation and analysis was exceeded for pH and phosphate in all wet chemistry data packages. In one data package results were grossly exceeded. Associated results were flagged accordingly.
- Some laboratory blank contamination was noted in the radiochemical analysis. Associated results were flagged

accordingly. Contamination, however, was not sufficiently high to affect the usability of the data.

- Due to low chemical yields, the americium-241 and technetium-99 results in several samples were rejected and flagged "R".
- Due to low LCS recovery results, carbon-14 and strontium-90 results in several samples were qualified as estimates and flagged "J".
- Due to MDAs above RDL, iron-59 and americium-241 results in several samples were qualified as estimates.

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-B4-1	B08FD7	W	04/17/93	V	2-5
	B08FD9	W	04/17/93	V	2-5
199-B3-46	B08FF1	W	04/28/93	NV	2-8
	B08FF3	W	04/28/93	NV	2-8
199-B3-1	B08FF6	W	04/16/93	V	2-9
	B08FF8	W	04/16/93	V	2-9
199-B3-47	B08FG1	W	04/16/93	V	2-9
	B08FG3	W	04/16/93	V	2-9
199-B2-12	B08FG6	W	04/17/93	V	2-9
	B08FG8	W	04/17/93	V	2-9
199-B2-13	B08FH1	W	04/17/93	V	2-9
	B08FH3	W	04/17/93	V	2-9
199-B4-1	B08FH6	W	04/17/93	V	2-9
	B08FH8	W	04/17/93	V	2-9
199-B4-8	B08FJ1	W	04/19/93	NV	2-12
	B08FJ3	W	04/19/93	NV	2-12
199-B4-9	B08FJ6	W	04/19/93	NV	2-12
	B08FJ8	W	04/19/93	NV	2-12
199-B4-4	B08FK1	W	04/19/93	NV	2-12
	B08FK3	W	04/19/93	NV	2-12
199-B4-5	B08FK6	W	04/20/93	NV	2-13
	B08FK8	W	04/20/93	NV	2-13
199-B9-1	B08FL1	W	04/21/93	NV	2-14
	B08FL3	W	04/21/93	NV	2-14
199-B9-2	B08FL6	W	04/27/93	NV	2-15
	B08FL8	W	04/27/93	NV	2-15
199-B3-3	B08FM1	W	04/27/93	NV	2-15
	B08FM3	W	04/27/93	NV	2-15
199-B8-6	B08FM6	W	04/28/93	NV	2-8
	B08FM8	W	04/28/93	NV	2-8
199-B5-2	B08FN1	W	04/27/93	NV	2-15
	B08FN3	W	04/27/93	NV	2-15
199-B4-7	B08FN6	W	04/20/93	NV	2-13
	B08FN8	W	04/20/93	NV	2-13

WELL AND SAMPLE INFORMATION					SAMPLE LOCATION INFORMATION
SAMPLE LOCATION	SAMPLE NUMBER	MATRIX	DATE SAMPLED	NV/V	VOLATILES
199-B5-1	B08FP1	W	04/21/93	V	2-16
	B08FP3	W	04/21/93	V	2-16
699-63-90	B08FP6	W	04/28/93	NV	2-8
	B08FP8	W	04/28/93	NV	2-8
699-65-72	B08FQ1	W	04/21/93	V	2-16
	B08FQ3	W	04/21/93	V	2-16
699-65-83	B08FQ6	W	04/21/93	V	2-16
	B08FQ8	W	04/21/93	V	2-16
699-72-73	B08FR1	W	04/29/93	NV	2-17
	B08FR3	W	04/29/93	NV	2-17
699-71-77	B08FR6	W	04/29/93	NV	2-17
	B08FR8	W	04/29/93	NV	2-17
699-72-92	B08FS1	W	04/28/93	NV	2-8
	B08FS3	W	04/28/93	NV	2-8
699-66-64	B08FS6	W	04/27/93	NV	2-15
	B08FS8	W	04/27/93	NV	2-15
699-67-86	B08FT1	W	04/27/93	NV	2-15
	B08FT3	W	04/27/93	NV	2-15
699-66-64	B08FV6	W	04/27/93	NV	2-19
	B08FV8	W	04/27/93	NV	2-19
199-B4-1	B08FW0	W	04/17/93	V	2-10
	B08FW2	W	04/17/93	V	2-10
199-B5-1	B08G60	W	04/21/93	V	2-16
	B08G62	W	04/21/93	V	2-16
EB1	B08FT6	W	04/30/93	V	2-18
	B08FT8	W	04/30/93	V	2-18
EB2	B08GV1	W	04/30/93	V	2-18
	B08GV3	W	04/30/93	V	2-18

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ENVIRONMENTAL WATER REPORT

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Date MAY 21 1993 Agency Identification Number S93-0257 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 April 16, 1993 Date Samples Received at Laboratory April 28, 1993

Analytical Results

Table with columns: Parameter Name, Analysis Date, Units, Method, Prep Method, Field Number, Lab Number, and 10 columns of data points for Hydrazine.

† 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

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ENVIRONMENTAL WATER REPORT

Form EPRW-A
Page 2 of 4
Part 2 of 3

MAY 21 1993

Date
Agency Identification Number S93-0257
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 April 16, 1993
Date Samples Received at Laboratory April 28, 1993

Analytical Results

Table with columns for Parameter Name, Analysis Date, Units, Method, Prep Method, Field Number, Lab Number, and 10 sample columns (B08FH5, B08FH5MS, B08FH5MD, B08FJ5, B08FK0, B08FK5, B08FP0, B08FL0). Row 1: Hydrazine, 04/30/1993, ug/L, ASTMD1385, ND*, 3.0 U, 77., ND*, 3.0 U, ND*, 3.0 U, ND*, 3.0 U, ND*, 3.0 U, ND*, 3.0 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.)

Handwritten signature and date: 5/16/93

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ENVIRONMENTAL WATER REPORT

Form EPRW-A
Page 3 of 4
Part 3 of 3

MAY 21 1993

Date _____
Agency Identification Number S93-0257
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 April 16, 1993

Date Samples Received at Laboratory April 28, 1993

Analytical Results

Parameter Name	Field Number	Lab Number	B08FR0	B08FP5	B08GG4	B08FL5	B08FQ5	Limit of Detection
Analysis Date Units	Units		EM 1094	EM 1095	EM 1096	EM 1097	EM 1098	
Method	Prep Method							
Hydrazine								3.
04/30/1993	µg/L		ND*	ND*	ND*	ND*	ND*	
ASTMD1385								

† 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.)

Drew
8/19/93
(Signature)

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WET CHEMISTRY DATA VALIDATION CHECKLIST - FORM A-7

PROJECT: 100-BC-5	REVIEWER: Donald Wumbold	DATE: 8/16/93
LABORATORY: Data Chem	CASE: B08FG0-DAT-244	SDG: B08FG0
SAMPLES/MATRIX: 17/Water		
(B08FG0, B08FG5, B08FWA, B08FJD, B08FFD, B08FH0, B08FH5, B08FJS, B08FK0, B08FKS, B08FFD, B0FL0, B08FR0, B08FPS, B08GGA, B08FLS, B08FQS)		

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		X	—	—
Spike Sample Recovery Report Forms	The laboratory supplied one form that summarized all the QC data.	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		X	—	—
Additional Data				
Laboratory Sample Preparation Logs		—	—	X
Instrument Run Logs		X	—	—
Internal Laboratory Chain-of-Custody		X	—	—
Percent Solids Analysis Records		—	—	X
Reduction Formulae		X	—	—
Chemist Notebook Pages		X	—	—

2. HOLDING TIMES

Were all samples analyzed within holding times? *Samples not shipped until 6-11 days after collection.* 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 indicated on the CCLs* 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? 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 indicated on the CCLs* 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 indicated on the CCLs* 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 B08FJS, B08FKD, B08FKS, B08FPD, B08FLD, B08FRD, and B08FAS were noted on the CACs to contain bubbles.

Samples were not shipped to the laboratory until six to 11 days after sampling. Since hydrazine is a volatile compound a holding time limit of seven days was used for the samples in this package. All samples were analyzed more than seven days after collection, therefore, all hydrazine results were qualified as estimated, J.

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, and therefore is recommended that a different method be selected for the analysis of hydrazine.

The laboratory reported the non-detection results as ND. These results were corrected to use the U qualifier for non-detections and the associated limit of detection.

9613471.1219

000001



ENVIRONMENTAL WATER REPORT

Form EPRW-A
Page 1 of 4
Part 1 of 3
OKS 6/16/93

Date MAY 21 1993
Agency Identification Number S93-0257
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 April 16, 1993
Date Samples Received at Laboratory April 28, 1993

working copy

Analytical Results

Parameter Name	Analysis Date	Units	Method	Prep Method	Field Number	Lab Number	BL-6071-1	BL-6071-1	QC-6071-1	QC-6071-1	B08FG0	EM 1082	B08FG5	EM 1083	B08FW4	EM 1084	B08FJ0	EM 1085	B08FF0	EM 1086	B08FH0	EM 1087	
Hydrazine	04/30/1993	µg/L	ASTMD1385				ND*	30	87.	ND*	30	ND*	30	ND*	30	ND*	30	ND*	30	ND*	30	ND*	30
									LS														

holding times

† 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.)

Mark Hix
Analyst: Mark A. Hixon
Katherine Kellersberger
Reviewer: Katherine Kellersberger
Norman K. Christensen
Laboratory Supervisor: Norman K. Christensen
DCA 8/16/93
8/19/93
P.D.



ENVIRONMENTAL WATER REPORT

Form EPRW-A Page 2 of 4 Part 2 of 3

MAY 21 1993

Date Agency Identification Number S93-0257 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 April 16, 1993

Date Samples Received at Laboratory April 28, 1993

WORKING COPY

Analytical Results

Table with columns for Parameter Name, Analysis Date, Units, Method, Prep Method, Field Number, Lab Number, and various sample IDs (B08PH5, B08PH5MS, B08PH5MD, B08PJ5, B08PK0, B08PK5, B08FP0, B08FLO). Includes handwritten data and 'ND*' markers.

† 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.)

DTW 8/16/93 [Signature]



ENVIRONMENTAL WATER REPORT

Form EPRW-A

Page 3 of 4

Part 3 of 3

Date MAY 21 1993

Agency Identification Number S93-0257

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 April 16, 1993

Date Samples Received at Laboratory April 28, 1993

working copy

Analytical Results

Parameter Name	Field Number	Lab Number	B08FRO	B08FP5	B08GG4	B08FL5	B08FQ5	Limit of Detection
Analysis Date Units			EM 1094	EM 1095	EM 1096	EM 1097	EM 1098	
Method	Prep Method							
Hydrazine								
04/30/1993								
ASTMD1385	µg/L		ND*	ND*	ND*	ND*	ND*	3
			30J	30J	30J	30J	30J	

change to 30 for ND

holding times

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

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

DTAC
5/11/93
(Signature)

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-BC-5

Collection Date 4/21/93

Ice Chest No. SMC-152

Field Logbook No. EPL-1036

Bill of Lading/Airbill No. 2536954321

Offsite Property No. W93-0-420-23

Method of Shipment EMERY

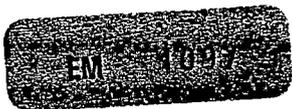
Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Sample Identification

BO 8FL5

1, 40ml, Gs, WATER; HYDRAZINE (HCL)



[] Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>KD Lee</i>	4/21/93	1345	<i>PCLode</i>	4/27/93	0700
<i>PCLode</i>	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:
Comments: <i>relinquish to Fr. [Signature] KD Lee 4/21/93 1345</i>		

Westinghouse Hanford Company	CHAIN OF CUSTODY
Custody Form Initiator KD LEE/GG HAMILTON	Telephone (509) 376-5045
Company Contact PH BUTCHER	Collection Date 4-21-93
Project Designation/Sampling Locations 100-BC-5	Field Logbook No. EFL1037
Ice Chest No. SML-152	Offsite Property No. W93-0420-23
Bill of Lading/Airbill No. 2536954321	
Method of Shipment EMERY	
Shipped to DATA CHEM	
Possible Sample Hazards/Remarks	

Sample Identification

BO8F&5
1, 40ml, Gs, WATER; HYDRAZINE



[] Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>GG Hamilton</i>	4/21/93	1350	<i>PC Cole</i>	4/27/93	0700
<i>PC Cole</i>	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:
Comments: <i>Bubble in sample. KI 4/22/93</i>		
<i>FRIG #1</i>		

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-BC-5

Ice Chest No. SML-152

Bill of Lading/Airbill No. 2536854321

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date ~~EFL-1037~~^{nr} 4/16/93

Field Logbook No. EFL-1037

Offsite Property No. W93-0-420-23

Sample Identification

B08FG0

1, 40ml, Gs, WATER; HYDRAZINE



Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
K. Trapp / K. Trapp	4/16/93	1355	PC Cole	4/21/93	0700
PC Cole	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method: Disposed by: Date/Time:

Comments: Samples set in retig on 4/16/93 ^{KT 4/16/93} on ~~4/16/93~~ at 1355

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-BC-5

Collection Date 4/16/93

Ice Chest No. SMC-152

Field Logbook No. EFL-1037

Bill of Lading/Airbill No. 2536954321

Offsite Property No. W93-0-420-23

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Sample Identification

BO8FG5

1, 40ml, Gs, WATER; HYDRAZINE



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

Relinquished By	Date	Time	Received By	Date	Time
K. Drupp / K. Trepp	4/16/93	1355	PC Cole PC Cole	4/27/93	0700
PC Cole PC Cole	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method: Disposed by: Date/Time:

Comments: Sample set in refrig 1 on 4/16/93 at 1355

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator **KD LEE/GG HAMILTON**

Company Contact **PH BUTCHER**

Project Designation/Sampling Locations **100-BC-5**

Ice Chest No. **SML-152**

Bill of Lading/Airbill No. **2536954321**

Method of Shipment **EMERY**

Shipped to **DATA CHEM**

Telephone **(509) 376-5045**

Collection Date **4/17/93**

Field Logbook No. **EFL 1037**

Offsite Property No. **W93-0420-23**

Possible Sample Hazards/Remarks

Sample Identification

BO 8FW4

1, 40ml, Gs, WATER; HYDRAZINE



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

Relinquished By	Date	Time	Received By	Date	Time
<i>GG Hamilton</i> GG HAMILTON	4/17/93	1646	<i>R Cole</i> R Cole	4/27/93	0700
<i>R Cole</i> R Cole	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method: _____ Disposed by: _____ Date/Time: _____

Comments: _____

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator **KD LEE/GG HAMILTON**
 Company Contact **PH BUTCHER**
 Project Designation/Sampling Locations **100-BC-5**
 Ice Chest No. **SML-152**
 Bill of Lading/Airbill No. **25360954321**
 Method of Shipment **EMERY**
 Shipped to **DATA CHEM**
 Possible Sample Hazards/Remarks

Telephone **(509) 376-5045**
 Collection Date **4/17/93**
 Field Logbook No. **EFL 1037**
 Offsite Property No. **W93-0420-23**

Sample Identification

B08FJ0
1, 40ml, Gs, WATER; HYDRAZINE



[] Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>GG Hamilton</i>	<i>4/17/93</i>	<i>1646</i>	<i>Phillip K Cole</i>	<i>4/27/93</i>	<i>0700</i>
<i>Phillip K Cole</i>	<i>4/27/93</i>	<i>0700</i>	<i>[Signature]</i>	<i>4-28-93</i>	<i>1200</i>

Final Sample Disposition

Disposal Method: _____ Disposed by: _____ Date/Time: _____

Comments:

- ① Unavoidable exposure to engine exhaust + smells @ WELL HEAD due to erratic wind changes
- ② FRID #4

Westinghouse Hanford Company	CHAIN OF CUSTODY
---------------------------------	-------------------------

Custody Form Initiator KD LEE/GG HAMILTON	Telephone (509) 376-5045
Company Contact PH BUTCHER	Collection Date 4/17/93
Project Designation/Sampling Locations 100-BC-5	Field Logbook No. EFL 1037
Ice Chest No. SML-152	Offsite Property No. W93-0-420-23
Bill of Lading/Airbill No. 2536954321	
Method of Shipment EMERY	
Shipped to DATA CHEM	
Possible Sample Hazards/Remarks	

Sample Identification

BO8FFD
1, 40ml, Gs, WATER; HYDRAZINE



[] Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>GG HAMILTON</i>	4/17/93	1646	<i>PC Cole PC Cole</i>	4/27/93	0700
<i>PC Cole PC Cole</i>	4/27/93	0750	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:
Comments:		

FRIG #5

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-BC-5

Collection Date 4/17/93

Ice Chest No. SML-152

Field Logbook No. EPL 1037

Bill of Lading/Airbill No. 2536954321

Offsite Property No. W93-0-420-23

Method of Shipment EMERY

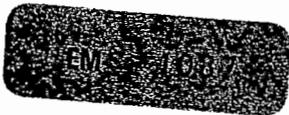
Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Sample Identification

B08FH0

1, 40ml, Gs, WATER; HYDRAZINE



Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>GG Hamilton</i>	4/17/93	1646	<i>Richard P. Cole</i>	4/21/93	0700
<i>Richard P. Cole</i>	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method: Disposed by: Date/Time:

Comments:

FRIG 45

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator **KD LEE/GG HAMILTON**

Company Contact **PH BUTCHER**

Telephone **(509) 376-5045**

Project Designation/Sampling Locations **100-BC-5**

Collection Date **4-17-93**

Ice Chest No. **SML-152**

Field Logbook No. **EFL 1037**

Bill of Lading/Airbill No. **2536954321**

Offsite Property No. **W93-0-420-23**

Method of Shipment **EMERY**

Shipped to **DATA CHEM**

Possible Sample Hazards/Remarks

Sample Identification

B08FH5

1, 40ml, Gs, WATER; HYDRAZINE



Field Transfer of Custody

Chain of Possession

(Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
<i>PH BUTCHER</i> GG HAMILTON	4-17-93	1646	<i>PCOLE</i> PCOLE	4/27/93	0700
<i>PCOLE</i> PCOLE	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:
------------------	--------------	------------

Comments:

FRIG #5

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator **KD LEE/GG HAMILTON**

Company Contact **PH BUTCHER**

Project Designation/Sampling Locations **100-BC-5**

Ice Chest No. **SMB-152**

Bill of Lading/Airbill No. **2536954321**

Method of Shipment **EMERY**

Shipped to **DATA CHEM**

Possible Sample Hazards/Remarks

Telephone **(509) 376-5045**

Collection Date **4/19/93**

Field Logbook No. **EFL1037**

Offsite Property No. **W93-0-420-23**

Sample Identification

BO 8FJ3

1, 40ml, Gs, WATER; HYDRAZINE



Field Transfer of Custody

Chain of Possession

(Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
<i>GG Hamilton</i>	4-19-93	1525	<i>PH Butcher</i>	4/27/93	0700
<i>PH Butcher</i>	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method:

Disposed by:

Date/Time:

Comments:

Note: Bubbles present PC 4/20/93

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-BC-5

Ice Chest No. SML-152

Bill of Lading/Airbill No. 2536954321

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 4/19/93

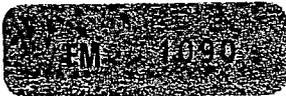
Field Logbook No. EFL-1037

Offsite Property No. W93-0-420-23

Sample Identification

BO 8FKO

1, 40ml, Gs, WATER; HYDRAZINE



Field Transfer of Custody

Chain of Possession

(Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
K. Trapp / K. Trapp	4/19/93	1523	PC Cole PC Cole	4/27/93	0700
PC Cole PC Cole	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method: Disposed by: Date/Time:

Comments: Sample set in rotig 1 on 4/19/93 at 1525
 Note: Bubbles present PC 4/20/93

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-BC-5

Collection Date 4/19/93

Ice Chest No. SML-152

Field Logbook No. ~~KT~~ ^{KT 4/19/93} EFL-037

Bill of Lading/Airbill No. 2536954321

Offsite Property No. W93-0-420-23

Method of Shipment EMERY

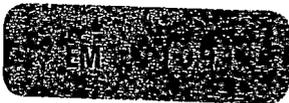
Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Sample Identification

BO 8FK5

1, 40ml, Gs, WATER; HYDRAZINE



Field Transfer of Custody

Chain of Possession

(Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
K. Drapp / K. Vapp	4/19/93	1523	R. Cole R. Cole	4/27/93	0700
R. Cole R. Cole	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method:

Disposed by:

Date/Time:

Comments:

Sample set in retriev #1 on 4/23/93 at 1523

Note: Bubbles Present

9613471.1251

000015

Westinghouse Hanford Company	<h2 style="margin: 0;">CHAIN OF CUSTODY</h2>
Custody Form Initiator KD LEE/GG HAMILTON Company Contact PH BUTCHER Project Designation/Sampling Locations 100-BC-5 Ice Chest No. SML-152 Bill of Lading/Airbill No. 2536954321 Method of Shipment EMERY Shipped to DATA CHEM Possible Sample Hazards/Remarks	
Telephone (509) 376-5045 Collection Date 4/20/93 Field Logbook No. ECL-1037 Offsite Property No. W93-0-420-23	

Sample Identification

BO & PC
1, 40ml, Gs, WATER; HYDRAZINE



[] Field Transfer of Custody		Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>C. Calicut C. Calicut</i>	<i>4-20-93</i>	<i>1215</i>	<i>PC Cole PC Cole</i>	<i>4/27/93</i>	<i>0700</i>
<i>PC Cole PC Cole</i>	<i>4/27/93</i>	<i>0700</i>	<i>[Signature]</i>	<i>4-28-93</i>	<i>1200</i>

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:
------------------	--------------	------------

Comments: *Rebrdy # 4* **NOTE: BUBBLES IN SAMPLE BW 4/21/93**

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-BC-5

Ice Chest No. SMC-152

Bill of Lading/Airbill No. 2536954321

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 4/20/93

Field Logbook No. EFL-1037

Offsite Property No. W93-0-420-23

Sample Identification

BO 8FLC

1, 40ml, Gs, WATER; HYDRAZINE



[] Field Transfer of Custody

Chain of Possession

(Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
C. Celibert C. Celibert	4/20/93	1215	PC Cole PC Cole	4/27/93	0700
PC Cole PC Cole	4/27/93	0700		4-28-93	1200

Final Sample Disposition

Disposal Method:

Disposed by:

Date/Time:

Comments:

Refridg # 4

Note: Bubbles present

PC 4/21/93

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator **KD LEE/GG HAMILTON**

Company Contact **PH BUTCHER**

Project Designation/Sampling Locations **100-BC-5**

Ice Chest No. **SML-152**

Bill of Lading/Airbill No. **2536954321**

Method of Shipment **EMERY**

Shipped to **DATA CHEM**

Possible Sample Hazards/Remarks

Telephone **(509) 376-5045**

Collection Date **4/21/93**

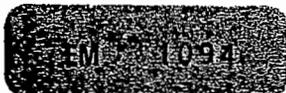
Field Logbook No. **EFL 1037**

Offsite Property No. **W93-0-420-23**

Sample Identification

BOEFRO

1, 40ml, Gs, WATER; HYDRAZINE



Field Transfer of Custody

Chain of Possession

(Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
<i>GG Hamilton</i> GG HAMILTON	4/21/93	1350	<i>RC Cole</i> RC Cole	4/27/93	0700
<i>RC Cole</i> RC Cole	4/27/93	0700	<i>[Signature]</i>	4-28-93	1200

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:
------------------	--------------	------------

Comments: **Bubble present KI 4/22/93**
FRIG #1

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator **KD LEE/GG HAMILTON**

Company Contact **PH BUTCHER**

Project Designation/Sampling Locations **100-BC-5**

Ice Chest No. **SML-152**

Bill of Lading/Airbill No. **2536954321**

Method of Shipment **EMERY**

Shipped to **DATA CHEM**

Possible Sample Hazards/Remarks

Telephone **(509) 376-5045**

Collection Date **4/21/93**

Field Logbook No. **FEL-1036**

Offsite Property No. **W93-042023**

Sample Identification

~~BO~~ **PEP5**

1, 40ml, Gs, WATER; HYDRAZINE (HCL)



Field Transfer of Custody

Chain of Possession

(Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
<i>Kathy Wheeler K.O. Co</i>	<i>4/21/93</i>	<i>1345</i>	<i>DeLoe PCCole</i>	<i>4/27/93</i>	<i>0700</i>
<i>DeLoe PCCole</i>	<i>4/27/93</i>	<i>0700</i>	<i>[Signature]</i>	<i>4-28-93</i>	<i>1200</i>

Final Sample Disposition

Disposal Method:

Disposed by:

Date/Time:

Comments:

relinquish to Frig #4 by Kathy Wheeler 1345

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Project Designation/Sampling Locations 100-BC-5

Ice Chest No. SML-152

Bill of Lading/Airbill No. 2536954321

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks

Telephone (509) 376-5045

Collection Date 4/21/93

Field Logbook No. EFC-1036

Offsite Property No. W93-0-420-23

Sample Identification

BO 8664

1, 40ml, Gs, WATER; HYDRAZINE (H₂L)



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

Relinquished By	Date	Time	Received By	Date	Time
<i>Phy. Mike K. D. Lee</i>	<i>4/21/93</i>	<i>1345</i>	<i>Altole PCLde</i>	<i>4/27/93</i>	<i>0700</i>
<i>Altole PCLde</i>	<i>4/27/93</i>	<i>0700</i>	<i>[Signature]</i>	<i>4-28-93</i>	<i>1200</i>

Final Sample Disposition

Disposal Method: Disposed by: Date/Time:

Comments:

reling to frig # 4 by Phy. Mike 4/21/93 1345